CURRENT NOTES

Your Monitor on the World of ATARI

Vol. 12, No. 10

Dec '92 / Jan '93

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In this Issue:

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International Atari Network
Flopticals
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A Furry Merry Christmas
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8–Bit Model Railroading

CN 1210

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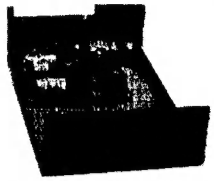
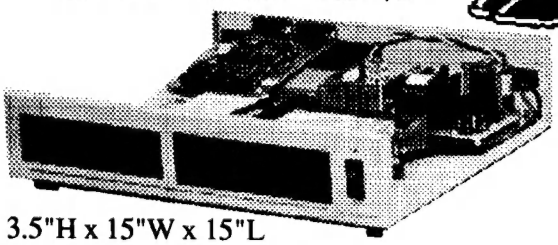


Case B: our shoebox Case $89



3.5"H x 15"W x 15"L

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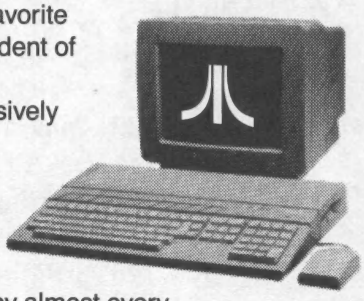

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- Hard Disk Sentry
- and the list goes on and on...

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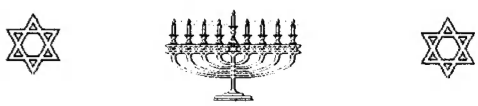
Table of Contents

December '92 / January '93

Regular Features

Articles/Reviews



The Cover. A symbol of fun (joystick for an Atari) sits atop a snow-dappled holly bush, symbol of the season. Can you see the new Falcon hidden in the leaves? Neither can we. Photo by Mike Heininger, (c) 1992.

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ICD AdSpeed STe	215
FAST Tech. T-16	169
Addams Family	37
Amerstar	39
AERCO 520STfm/1040 RAM Uprgrade	99
Arabesque Prof.	119
Assem Pro	36
Avante Vector	479
Band In A Box	62
Best ST Trackball	49
Blue Max: Aces WWI	42
C-Font	22
C-Manship w/Disk	25
CalAssistant	23
Calamus 1.09N	129
Font Editor	58
Guide to DTP-Book	32
Outline Art	164
Calligrapher Pro	110
Calligrapher Gold	159
Cardfile 4	26
Clean Up ST	23
Codehead Utilities 4.0	22
Codekeys	25
Codename: Iceman	22
Conquest Camelot	22
Convector Pro.	95
Crossword Creator 2	21
Curse of Azure Bonds	36
Cyber Control 1.1	31
Cyber Paint 2.0	42
Cyber Sculpt	54
Cyber Studio 3.0	48
Cyber Texture	31
Cyber VCR	42
D.E.K.A. Keybd Adaptor	84
DC Data Diet	44
DC Desktop	24
DC Shower	18
Desktop Publish 2.0	145
Deskjet Utility	22
Devpac ST 2	29
Devpac TT	164
Diamond Back 2.50	30
Diamond Edge	42
Dragons Lair 2	35
Dragons Lair 3	35
DVT Hard Disk Backup	69
Elvira II	46
EPIC	42
EZ Grade	30
EZ Test Writer	30
F-15 Strikeagle II	46
F-19 Stealth Fighter	44
First Graph	57
First Word Plus 3.20	67
Flash 1.6	16
Flash II	35
Flight of the Intruder	36
Font Designer	59
Font Designer Plus	165
Fontverter 2.0	30
G+Plus 1.3	22
G.I.M.E. Terminal	25
Generation Gap +	30
GFA BASIC 3.5e	104
G.I.M.E. Terminal	25
Gobliins	35
Golden Image Mouse w/Deluxe Paint	59
GP Edit Library	30
Grammar Expert	36
GramSlam Grammar	24
Grand Prix	44
Gravis Joystick	33
Gravis Mouse Stick	69
Hard Disk Accelerator	24
Hard Disk Sentry	30
Hard Disk Toolkit	18
HiSoft BASIC v2.0	89
Hook	38
Hot Wire Plus	42
Host Adaptors	
ICD AdSCSI+	94
ICD AdSCSI	84
ICD 'The Link'	99
Supra 2.0	75
Hyperchart	75
Hyperlink	95
Image Cat 2.0	24
Indus 5.25" Drive	75
Informer 2.03	59
Interlink ST	24
Invision Elite	104
Ishar	38
Joystick - Ergostick	18
JRI+ RAM Upgrade w/4096 Color Brd	99
Kidpainter	21
Kidpublisher Pro	21
Knightmare	39
Knights of the Sky	45
Laser C	110
Laser DB	47
Legend	44
Lexicor Software	
Animator Toolset	25
Chronos 3D	184
Genesis	38
Prism Paint	59
Prism Render	67
Prism Table Software	38
Prism Tablet	209
Render for Sculpt	25
Rosetta 3D	46
Utilities	38
Lemmings II (S/A)	33
Lookit n' Popit	24
Lure of Temptress	42
M1 Tank Platoon	39
Mega-Lo-Mania	39
MegaPaint II Pro	159
Mega Check	26
Microprose Golf	46
Midwinter II	45
MIG-29 Supfulcrum	52
Migraph	
Hand Scanner	255
OCR Software	249
Moonfall	34
MOS Disk Utilities 1.0	36
Mouse Master	27
Mug Shot 2.0	24
MultiDesk 2.1	17
MultiDesk Deluxe	30
MultiGEM	79
MultiGEM Plus	105
MVG	36
Modules #1	21
Modules #2	21
NeoDesk 3	42
NeoDesk CLI	18
NewDesk CPX 2.0	22
PageStream 1.82	89
PageStream 2.20	179
PageAssistant	31
Paladin II	39
Pha$ar 4.0	54
Populous 2	41
Printmaster Plus	35
Power BASIC	36
Powermonger	38
WWI Scenario	22
Prospero C	95
Prospero Fortran	139
Prospero Pascal	119
Prospero Toolkit	59
Puzzle Pack	27
Race Drivin'	41
Railroad Tychoon	47
RBI 2 Baseball	39
Realms	41
Replay 8	119
Replay Pro	129
Replay 16	159
Scan Lite	18
Secret of Monkey Isld	37
Shadow Sorceror	37
Shadowlands	41
Silent Service II	49
Sim City/Populous	43
Spelling Sentry	36
STalker 3.0	30
STeno 2.0	23
STOS	40
STOS 3D	40
STOS Compiler	18
Strike Fleet	37
Sudden View	19
Swifty Mouse	27
Third Reich	29
Their Finest Hour	35.
Tiger Cub	84
Tracker ST 3.0	59
Type 1 Converter	27
U.M.S. II	37
UIS III	18
Ultima VI	41
Ultimate Virus Killer 5	21
Utopia	40
VIDI ST	
Color Solution	240.
RGB Splitter	100
VIDI Chrome	31
Video Digitizer	129
VROOM	35
Warp 9 (Quick ST 3)	28
Wolf Pack	36
Word Perfect	159
Wordflair II	149
Wrath of the Demon	30
X-Boot	35
Xwitchit	30
Z-RAM RAM Upgrade	
2.5Mb Board	74
4Mb Board	84
MEGA ST	74
Compilation City	
Air Combat Aces	45
Gunship, Falcon, Fighter Bomber	
Air/Sea Supremacy	45
Gunship, Silent Service, Carrier Command, P47	
Thunderhawk, F-15 Stke	
Award Winners	39
Space Ace, Kick Off 2 Populous, Pipemania	
Bitmap Bros Vol. 1	36
Xenon, Cadaver and Speedball 2	
Coin Op Hits 2	42
Ghouls nGhosts, Ninja Spirit, Vigilante, Dynasty Wars, Hammerfist	
Falcon Classic Coll.	45
Falcon, Misn Dsk 1 & 2!	
Finales	25
Ghost n' Goblins, Paperboy, Space Harrier, Overlander	
Four Wheel Drive	42
Lotus Esprit, Toyota Celica, Team Suzuki, Combo Racer	
Hollywood Coll	42
Batman/Movie, Robocop Indy Jones, Ghostbuster	
Ninja Collection	34
Double Dragon, Shadow Warriors, Dragon Ninja	
Platinum	39
Black Tiger, Strider, Ghouls n' Ghosts, Forgotten Worlds	
Power Pack	39
TV Sports Football, Xenon 2, Bloodwych, Lombard RAC Rally	
Quest and Glory	42
Cadaver, Midwinter, Iron Lord, Bloodwych	
Super Sim Pack	24
Intern'l 3D Tennis, Crazy Cars2, Italy'90, Air.Rnger	

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Dragons of Flame	12.50
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From the Editor's Desk

by Joe Waters

Rightsizing

Another year has passed. Little did I realize when I put together my first 28-page issue as editor of *Current Notes*, way back in May of 1984, that I would still be doing this eight years later! But here we are, finishing 1992 and looking forward to 1993.

The recession that has rocked the nation in general, and the computer industry in particular, is still affecting Atari and all those who deal with the Atari market. Atari Corp has gone through a period of "right sizing" as they attempted to cut costs and tighten their belts before launching the new Falcon030.

Current Notes has not been immune to these setbacks. Our revenues in 1992 are substantially below those in 1991, which were below 1990. The Atari market has not been booming. Although we get new subscribers each month, we also lose a lot-most moving to other platforms. Over the last two years are subscription base has drifted downward about 10 percent. A more radical drop is seen in sales to Atari stores, which are down more than 50 percent. Every year a number of stores go bankrupt. Some stores don't want their customers to see the ads in CN, so they stop carrying the magazine. In October, we dropped 14 (out of about 80) stores because we discovered, to our dismay, that these dealers had not paid a single CN invoice all year. They accepted our magazines each month, sold them, and kept the proceeds. Bills have gone out; however, to date, only one of these stores had paid its bill. If *CN* is no longer in your local Atari dealership, maybe that's a dealer who isn't very honest.

Add to this the ongoing pinch of fixed subscription and cover prices facing increasing production costs, and you can see a definite crunch coming. Figure 1 shows the subscription price of *CN* from 1985 through 1992. The bottom line is the nominal subscription price, which was only $12 in 1985. Every couple of years the subscription price jumped up a bit moving to the current $27 in September 1990. The middle line shows the subscription cost measured in terms of 1992 dollars. Thus, because of inflation, that $12 subscription cost in 1985 would be equivalent to about $16 today. Of course, back then, *CN* was only 32 pages. (In fact, in 1984 it was only 24 pages for that price.) The cost of an 84-page issue in 1992 dollars, shown by the top line, was over $40!

All the signs indicate that it is time to raise prices again. We stuck with $20 for 8 quarters; with $24 for 7 quarters; $27 has been the price now for 10 quarters. However, with the recession still upon us, I am reluctant to do that. I am going to try and hold the cover price, and subscription price, steady as long as I can. But we have to find economies elsewhere.

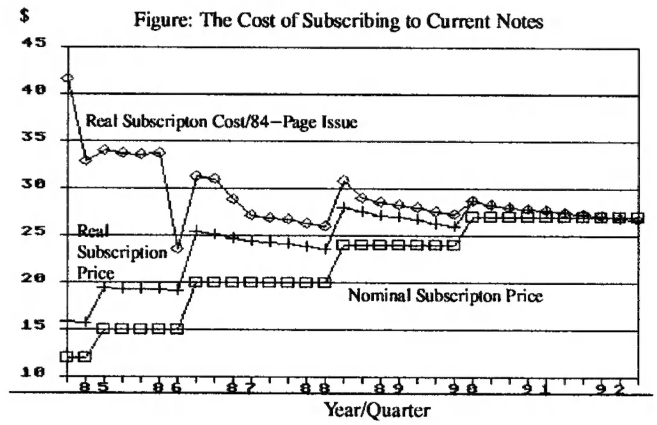

Figure: The Cost of Subscribing to Current Notes

For one thing, we can no long afford to subsidize subscriptions for Atari club members. The discount program is, therefore, discontinued. Everyone must pay the annual $27 price of the two-year $48 price. I have also discontinued sending free "courtesy" copies out to a number of Atari vendors. I would love to support those in the Atari market, but we can't afford to anymore; they will have to subscribe like everyone else. Finally, you may have already noticed that this issue is 8 pages shorter than normal. Not only does this afford us some economies, but it saves me at least 16 hours of work in putting together the issue each month; not an insignificant factor when all the work is done during the evening or on weekends!

I am hopeful that these changes will be enough to adjust our costs and move them more in line with revenues. In the meantime, you can help by telling your Atari friends about *CN* and encouraging them to subscribe; tell our advertisers where you saw their ads (or where you would *like* to see their ads); and, if you are reading a friend's copy of CN, give it back and subscribe yourself!

Astute readers may have noticed that this issue is marked Dec '92/Jan '93 rather than just December 1992. There is no change in *CN* schedules. Our next issue will show up, as usual, in February. Labelling this issue for the double month issue rather than calling the February issue "Jan/Feb" seemed more appropriate since it more closely approximates the actual scheduling of the magazine.

Finally, all of the CN family would like to extend our sincerest best wishes to David and Jennifer Troy, who were wed on Saturday, November 21, 1992.

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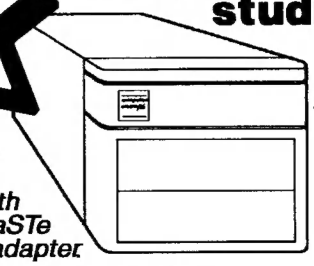

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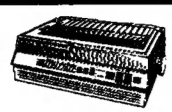

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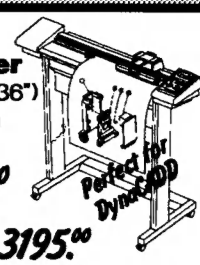

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Letters to the Editor

TOADally Cool!

Dear Mr. Waters and Readers,

I subscribe to both *Current Notes* and *ST Informer*. Thanks for putting out such a classy magazine—it's nice to see such professionalism in a magazine for our computer. I really like the reviews, up-to-date ads, and letters to the editor. The ads are important to me because anything I buy must be my mailorder, since there are no dealers in the Binghamton, NY area. Maybe some computer dealers would consider opening a branch here (hint hint!). Really, though, if anyone knows of a user group closer to me than Syracuse, please contact me.

After reading a letter from a reader of *ST Informer*, I felt inspired (almost obliged) to write about the excellent support I've received recently from TOAD COMPUTERS.

I had ordered the *Atari ST Sound and Music* package for my 520ST. After using the package for about a month and being unable to get the package to do what I needed it to, I contacted TOAD COMPUTERS regarding its return. They said there was no problem—just send it back and they'd send the software I wanted to exchange it for. This, in itself, is worth writing about.

Well, about three weeks after I'd sent the package via UPS (to the wrong address!), they hadn't received it yet. Jennifer at TOAD COMPUTERS said this wasn't my problem—I should call UPS to put a trace on the package and she would send my replacement software ASAP with no postage charge.

I was flabbergasted! Even though they hadn't yet received my return shipment, they were willing to send the replacement to me! I have dealt with few companies with this kind of customer satisfaction policy. Let me tell you (as if you didn't already know), that sort of customer appreciation is the stuff reputations are made of—especially in a field where most items are, at least where I live, bought by mailorder.

So let me give A BIG THANK YOU to the folks at TOAD COMPUTERS for being so understanding and caring. I hope they will enjoy much business from fans of Atari machines, especially as the Falcon030 (we hope) sets the computing world on fire!

Best of luck, Dave, Jennifer & Ray! You guys are "Toad-ally" cool!

C. David Holmes
Conklin, NY

Yea! Pussycat

Dear Mr. Waters,

Just a word to say how impressed I was with "The Junkyard Pussycat's" (John Barnes) words on software in the October 1992 *Current Notes*.

When I open my Falcon030 box, I certainly hope that I will see all those wonderful software leaflets, demos, and applications he proposes that should be there. I'll then *know* that I have bought a *real* computer.

Thank you.
Stuart Bonwit
Silver Spring, MD

Another Great FEAST

Dear Joe,

Thank you for reminding me about the renewal of my subscription. ... Please process my renewal fast; I don't want to miss a single issue!! I currently do not own an ATARI computer, but I will be purchasing one in January of 1993 (a Falcon030 14 meg).

I would like to say thank you for a fun-filled and educational ATARI FEAST 92. This is my second FEAST attendance and it gets better every year. This year I brought two guests who use the IBM platform at work, and they were nothing short of being amazed at the Atari line up. Everyone who worked the long hard hours to put a show like this together have my heart felt thanks. They should feel proud of their efforts. I am already planning my vacation toward the next FEAST.

I would also like to thank the entire staff of *Current Notes* for a fine publication. Even though the pages are not glossy like some of the magazines across the way, the articles are always top notch! The reviews are good insights, and the technical articles educational. Again, thank you for one of the, if not *the*, best info-magazine Atari has going for it.

Even though I do not own an Atari computer yet, I am proud to be a part of the family. I always push the Atari platform whenever I get into a discussion about computers. I can't wait to show off my new Falcon030 to everyone I know and don't know....

Sincerely
Bernard J. Pastorella
Bensalen, PA

[On behalf of the WAACE organizers and the CN staff writers, thank you for your kind words and best of luck with your new Falcon! —JW]

ALICE

Dear Madam or Sir,

I would like to offer you the program ALICE 1.5 to be included in your public domain list.

Well, you should not expect an "Alice in Wonderland" ... ALICE (Another LIttle C Editor) is a GEM text editor for the Atari ST computer. It is written in C using standard GEM-routines only. It is very easy to use and provides most of the features required for an ASCII editor, it supports the mouse, several GEM-windoes, etc. Search/replace, cut/paste are included as well. For further details please refer to the README.DOC and MANUAL.DOC files on the disk included.

I intend to provide the source code to interested users to encourage them to go for similar projects.

Well, I hope you are interested in distributing the program. I wrote the program completely by myself, all rights of the program lie within me.

Yours Sincerely,
Ralf Kaufmann
Wilhelmstr, Germany

[I would be delighted to add ALICE to the CN Library. It will be among the new disks this month. —JW]

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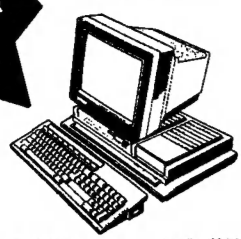

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GOOD NEWS AND BAD NEWS

Atari Industry News and Announcements

Branch Always Software Ships Gemulator Ver 2.0

Gemulator software and hardware turns the user's IBM PC compatible unit into an Atari ST clone. The hardware is a plug-in board for the PC. The software provides for the actual running of ST applications on a 386 or 486 PC. Version 2.0 of the software is now shipping. Minor compatibility problems (such as with GFA Basic 3.6 and Wercs) are fixed.

The 10 improvements in the new version are said to include faster emulation, much smaller executable image size, the ability to run on 4 MB PCs without virtual memory, faster load time, variable sized ST memory (from 512K to 8M), improved hard disk support, support for additional graphic resolutions, easier resolution changes on a single VGA monitor, faster floppy disk loading, and automatic configuration,

Price for the upgrade to ver 2.0 for current *Gemulator* owners is $59.95. Personal checks, money orders, and VISA/MasterCard orders are accepted.

See the product announcement in the October 92 *Current Notes* for ordering information on the hardware and ROMs.

Branch Always Software; 14150 N.E.20th Street, Suite 302, Bellevue, WA 98007.

GE Soft and New Horizon Computer Systems LTD Announce TT Memory Expansions

Memory expansion boards are said to be capable of providing 32, 64, 128, and 256 MB of RAM for Atari TT computers. The memory expansions are intended for users of demanding applications. The TT/32 and TT/64 Expansion Boards can be purchased unpopulated for $429 and $749 respectively insured, plus freight, brokerage fees and Customs Duty (if any).

The new 128 MB and 256 MB Boards are custom orders, built on receipt of order with payment in advance. At present, GE Soft is offering these boards fully populated only. Pricing is difficult to set with fluctuating international money markets. Approximate pricing (depending on exchange rates for the Deutsch Mark) are: TT/128 $7999, and TT/256 $15,749. (All prices in US $.)

New Horizon Computer Systems Ltd; #280, 11012 Macleod Trail South, Calgary, Alberta, CANADA T2W 3V3; Phone: 403-225-1160; FAX: 403-271-1398; GEmail: KBROOKS1 or BKLASSEN.

Gribnif Releases Ver III of XBoot, Updates CardFile

XBoot is an AUTO folder program used for defining custom boot configurations of desk accessories, other AUTO folder programs, and, in the new version, CPX modules for Atari's extended control panel. This allows the user to tailor the computer's software configuration to applications that have varying requirements for memory, resident programs, and accessories.

XBoot allows all of this to be done in a GEM-like environment, which is an unusual capability for a program running in the AUTO folder. Version III is said to feature improved support for special video hardware, recognition of CPX modules, "links" to control loading of related programs during booting, an improved user interface, and increased capacity in file lists.

XBoot is priced at $42.95 when ordered from Gribnif. Dealer pricing may vary. Upgrades are available from Gribnif for registered users of earlier versions. Credit cards and personal checks are accepted.

Owners of Gribnif's *CardFile* version 4.01 can upgrade to version 4.02 using a patch program CRDF402.LZH from GEnie's ST RT library.

Gribnif Software; P.O. Box 779, Northampton, MA 01061; Orders: 800-284-4742; Info: (413) 247-5620; Fax: (413) 247-5622.

IAAD Elects New Officers

The Independent Association of Atari Developers (IAAD) is pleased to announce the election of a new, expanded Board of Directors. Newly-elected Board members include: Nathan Potechin of ISD/DMC, Nevin Shalit of Step Ahead Software, Jim Allen of FAST Technology, Chet Walters of Wizworks!, and Dorothy Brumleve of D.A. Brumleve.

Ms. Brumleve, who will serve as President of the organization, said of the election: "Our new Board members' varied experience in the marketplace should serve us well in assisting our members and Atari Corp. We plan to maintain close contact with Atari in order to better address the needs of our members and the Atari community at large."

Speaking on behalf of Atari Corp., Director of Communications Robert G. Brodie said, "It has been a great pleasure to work with the leaders of the IAAD over the past few years. I have no doubts that the IAAD and Atari will be a formidable team as the Atari Falcon030 begins to capture market share. We look forward to continued excellent relations with the IAAD and its Board of Directors."

The IAAD is an organization of third-party commercial hardware and software developers supporting the Atari ST family of computers. The current membership includes most active developers in North

America as well as some from abroad. The organization works to provide its membership with help in marketing, packaging, technical matters, and other issues of interest to third-party developers. Working in concert with Atari, the IAAD strives to raise Atari product awareness and to ease the introduction of new products in the marketplace.

Such support takes place through member-to-member exchanges and group projects. Past projects include the "IAAD Brochure," a brochure containing descriptions of participating members' products, which was produced by the IAAD, published by Atari, and distributed with *Atari Explorer* magazine. Commercial developers are encouraged to join the IAAD by sending GE Mail to the PERMIT$ address on GEnie. Developers who are not currently GEnie members may call D.A. Brumleve at 217-337-1937 for further information.

Migraph Ships PS-400 Full-page Scanner for Atari Systems

Migraph Inc. is now shipping their PS-400 Wand full-page scanner. The PS-400 is said to be the first monochrome scanning wand available for Atari computers in the Untied States. The Wand is said to offer many of the advantages of a flatbed scanner at a much lower price. The unit comes bundled with *Touch-Up* and *Migraph OCR*, providing the customer with both image and text recognition solutions in one package.

Features offered by the PS-400 Wand include: scan area up to 8.5 x 14 inches; four dither patterns for scanning colors and halftones and one line art setting, text scanning resolutions of 200, 300, and 400 dpi for OCR processing; 31 image scanning resolutions from 100-400 dpi in 10 dpi increments; up to 256 greyscale steps by means of an 8x8 dither pattern and software conversion; optional sheet feeder can hold and process several pages automatically; compact interface via the ST cartridge port. The PS-400 Wand works on any Atari system with 4 MB of memory and a hard disk.

Retail price for the scanner/software bundle is $899. The optional sheet feeder lists at $249. Migraph products are available from dealers and by direct sale. Registered owners of Migraph and Golden Image scanners are eligible for upgrades at special prices direct from Migraph.

Migraph, 32700 Pacific Highway S, Suite 12, Federal Way, WA 98003; Phone: 206/838-4677.

ViewTouch Corp. to Handle PowerDOS and PowerNet

PowerDos and *PowerNet*, whose distribution rights and support were with Dragonware, have been sold by the programmer to ViewTouch Corporation. All support, programming and general information questions for *PowerDOS* and *PowerNet* should be directed to either Gene Mosier at 503-344-7990 or Christopher Latham at PowerPoint Software 503-479-6635.

Zubair Interfaces Z-RAM/Falcon 4/16 Megabyte Upgrade Board

Zubair Interfaces, Inc. has developed and is shipping **Z-RAM/Falcon**, a 4 or 16 Megabyte memory upgrade board for the Atari Falcon030. The ultra-compact and low profile board is a four-layer board with separate ground and power planes and is 100% compatible to Atari's own board. The Z-RAM board features low profile machined sockets, allowing the end user plug in his/her own RAM chips. **ZRAM/Falcon** is a direct plug-for-plug replacement for 1 MB RAM boards supplied with the Falcon030. Ultimate memory capacity depends on the type of RAM chips installed, up to 14 MB are addressable by the Falcon030.

The suggested retail price of the bare board (without the RAM) is $249.95 and volume shipments will start in mid-November. As the RAM market is very volatile, contact the vendor for current board and RAM combined pricing.

Zubair Interfaces, Inc. 5243-B Paramount Blvd. Lakewood, CA 90713 USA (310) 408-6715; FAX: (310) 408-6748.

P.A.C.S. Festival

The 16th Annual P.A.C.S. Computer Festival will be held March 20th, 1993 at the Drexel University Main building, 32nd and Chestnut Streets, Philadelphia PA. The Computer Festival is FREE and open to the general public; all are welcome. There are demonstrations and events from 9:00 am to 4:00 pm with presentations from major computer companies for Apple, Atari, Commodore, IBM, Mac, Tandy, MIDI, Spreadsheets, Databases, Education, Programming Languages, Graphics, and more!

The PACS Atari SIG's (8−bit, ST, MIDI, and Kid SIG, who will have tables at the festival), will be joined by N.E.A.T. (North East Atari Team), CDACC (an Atari group from Dover, Delaware), J.A.C.S. (Jersey Atari Computer Society.) For further information, call (215) 951−1255.

To All Atari Vendors:

Current Notes' new product listings are provided as a service for Atari developers and consumers. Vendors wishing to submit product announcements should send "brief" (200 words or so) descriptions of their products, together with information needed for contacts from users. Announcements should be sent Joe Waters:

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You may also send internet mail to:
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Press releases must reach *Current Notes* by the tenth of each month.

Sam Tramiel, President of Atari Corp.

COMDEX Report

GEnie Online Conference: 16 November 1992

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The host for this Monday Night Real Time Conference was Lou Rocha.

[Below is the CN transcript of the questions and answers from that conference. To conserve space, I have deleted most of the conference moderator comments. Sam Tramiel's responses are in italics. Obvious spelling and punctuation errors have been corrected. –JW]

Lou Rocha: It gives me great pleasure to welcome Sam Tramiel, President of Atari Corporation, to the ST Round Table Monday Night Real Time Conference. Many thanks to Sam and his crew for taking this time to join us on the very first night of COMDEX '92 as Atari proudly unveils its products at the largest computer trade show in North America.

Sam... please tell us your impressions of the first day of COMDEX. What were the highlights for Atari Corporation?

The show once again is a PC show and we are one of two unique offerings, the other being Apple. We really feel that we have some really exciting hardware and software in the Atari Falcon030. The important thing is to market the machine properly and we are now planning the advertising for Q1 of 1993.

JCD (MAG Software): Hi Sam. Thanks for being here tonight. Sorry I am missing COMDEX this year. Our 1st born baby boy came Nov. 8th. Being a new dealer, I'd like to know when we will get dealer prices on the Falcons? European dealers are already advertising theirs.

Mazel Tov Jeff on your baby. The dealer prices are now available. Please call Sunnyvale on Monday next week.

John Cole (Lexicor): Hello Sam, how do you feel a possible trade war between the US and the EC will affect Atari? How would a trade war affect US marketing plans and planned production?

Your questions are very interesting but I really have no control of the situation. I really think that Europe will backoff on the agricultural issues. All of Europe is against France on this.

Eric Goodman: There are rumors of a tower version of the Falcon being shown at COMDEX. Are these just rumors?

There is no tower version at the show and I can't comment further.

Sam Rapp: Sam, there have been questions on whether the Falcon memory sits on a 32 bit bus or a 16 bit bus. Could you clarify? Also, any design changes in the production models? Thanks.

Unfortunately, Leonard and Richard Miller are not here and I am not able to answer your question.

James French: When will the Falcon be available in Canada, same as U.S.?

The availability in Canuck land is the same as for the US. Yea Canada on being World Series Champions.

Lou Rocha: Sam.... the million dollar question. When do you think the dealers will see their first store models?

Some dealers will get machines very, very soon and we will continue to roll out shipments from now on, but real volumes start in Dec/Jan.

Bruce/Keith Klassen: Hi Sam, Here is our shopping list: 1. Is FSM and Speedo compatible? 2) When will dealers get MultiTOS for TT's? 3) Are all TT monitors cancelled? 4) Future of the TT in a tower and/or 040? 5) UNIX? Thanks,

1. FSM and Speedo are not compatible and I have been using Speedo and it is great, with lots of fonts from Bitstream. 2. MultiTOS is just being released for the TT, i.e. very soon. Eric Smith, another fine Canadian, is now living in California and is finishing things off. 3. No. 4. We are planning on a 040 machine and we have no plans on expanding our unix involvement.

Brian Harvey: Sam, what is the future of the Mega STe? Will a Mega Falcon replace it or will the Mega STe be selling for a few more years?

The Mega/STe is still being sold today and the production will depend on the demand which I think will slack off when the Atari Falcon030 starts shipping in volume.

Jason Brunken: Is Atari or any other company currently working on the 'Virtual' modem/fax/phonemail system for the Falcon. If I know that I can get this I most certainly will get a falcon!

I don't know what a "virtual" means, but there is a voice mail system and a great fax/modem system.

Robb Albright: Sam, can you give us a brief overview of applications being demoed there, and if there are any press features (TV) that we can keep our eyes open for. Thanks.

There are around 40 titles being shown, a lot of sound stuff, ie D2D, a beta version of "Concierge" the new name for Sutra, a wild game from Jeff Minter of llamasoft, and an interesting sewing machine that stitches on hats and tee-shirts, and the new Kodak Photo CD which now runs on The Atari Falcon030 and the TT030. The deal with Kodak was just signed on Friday last week. Calamus showed SL which can use KodakPhotoCD and HiSoft has TrueColor software.

Lou Rocha: Sam, J.BRUNKEN is willing to clarify that "virtual" question...

Jason Brunken: By "virtual," I was referring to using the 56001 DSP to emulate these devices rather than paying the big bucks to buy the actual hardware. Are any companies seriously exploring the use of the DSP at this point?

That is being worked on and should be out by second quarter 93.

Ted Patterson: What has been the reaction of showgoers to the Falcon030 and other assorted goodies? Any new business likely?

So far, the reaction has been very positive and Dealers and Distributors alike are showing interest.

Eric Goodman: Might there be a Jaguar appearing at COMDEX? And, if not, what info can we get on a release date?

We just finished the first two developer conferences, one in Sunnyvale, the other in London on the Jaguar system. It's going to be an awesome entertainment machine and delivery will be 2nd half of 93.

Rod Cobble: Hi, I was wondering about Atari's plans for distributing the Falcon? Dealers? Any chain stores considered? Mail Order? What will the street prices be? I need IBM compatibility. Would love to do it with one machine. Any word on Emulators?

Wow, alot of questions. :−) We are planning, of course, to have ST Dealers and chain stores and Atari mail order. There is a company in Germany, Compo, that is going to show IBM emulation tomorrow at COMDEX, they say, if not very soon. One megabyte machine SRP is US $799, a 4 megabyte unit is $999 and 4 megabyte with a 65 megabyte hard drive is US $1299.

Lou Rocha: Folks... please use your time for only one question. There are ten people in the queue. Next we have Daryl Monge.

Daryl Monge: What customer do you see for the Falcon that is not already an Atari customer? (P.S. FYI, I would like to buy a tower Falcon040 :−)

Bill Prang: Sam, I have a bunch of Atari stock that was worth $6000 and is now worth $600. Do you think that the new products in line have a chance of boosting values, and is Atari still buying stock on the market?

Atari has an open plan to purchase stock back from the market and has done so in the last quarter. I of course cannot predict the stock market but we have "rightsized" and hopefully will be going forward in a profitable manner with the Atari Falcon030.

Lou Rocha: Sam... I am getting sends that you may have missed Daryl's question: What customer do you see for the Falcon that is not already an Atari customer.

Yes, we missed the question. We are going after the mass market home user and hope that with software like voice mail for the home and other great apps we can attract new users. The machine really is FUN to use. The sound effects are incredible.

Jim Ness: Bill Prang touched on this already, but let me upload it anyway. Hi. I know this is a tough one to have to answer, but let's mow through it anyway. The stock market has not shown any excitement over the Falcon intro. The quarterly financial results continue to be scary, for anyone banking on the continued existence of your company. How can you convince these financial pros that they are wrong about your company, and that they should count on some real near-term growth? This question is as important to your customers, who want to see you around for awhile, as it is to your investors, who simply would like to make some money.

We still have close to $50 million CASH in the bank and are now running at a break even or small profit. We are not working for Wall Street but to make money for our shareholders and only think long term.

Geoff Sloan: Sam, can you tell us any of the companies that will be coming back to Atari to produce for the Falcon?

It is not a question of companies coming back but of companies writing new and exciting software that takes advantage of the features of the Atari Falcon030. For example, we are getting quite a few NeXT developers who are used to working with 56000 DSP's and of course we are causing a lot of excitement in the Audio area with the DSP and Atari Falcon030 features which is better than CD quality with 50 kHz sound.

Mike Allen: When can we expect to see official, regular Atari participation here in GEnie?

I am going to be accessing GEnie at home and will be more active on a regular basis. (Nathan is getting that in writing!) ;−)

Bruce/Keith Klassen: Yo Sam. What is the status and capability of the SACK 286/386/486 card to give us that dumb DOS compatibility we could to use get people in the door, how soon for speedo, will the wp features of Concierge have all the features of Wordup and will the spreadsheet be as good or better than LDW? P.S. We still 'love' Atari 030's!!

Lou Rocha: Sam... you can answer any ONE of those ;−)

SACK is from Compo and is being shown tomorrow as a 386 SX.Speedo is very soon, within, I would guess, 4-6 weeks. Concierge is a completely different program than WordUp but it has an excellent word processor and the spreadsheet is EXCEL compatible rather than Lotus. We also love our Atari's.

Robb Albright: Sam, I think you must have missed the second half of my first question, so let me try again. Have there been any TV Cameras hovering around the Atari area, and could you leak who they might be if so, i.e. CNN Headline, NBC, PCTV, so we can get a visual of the excitement we are reading about.

We have not seen in any cameras in the building yet. Hopefully we will have some exposure. However, CNN just received their review unit for technology week.

James Vogh: Since the Falcon is a home computer, what is the status of game software and what about video phone capability?

We, Atari, have contracted about a dozen games and they will be released over the next few months and there are a number of Developers busy working away on some great games. I have seen demo's in the US and in Europe, titles such as Raiden, Road Riot H4WD, Cyber Assault, Steel Talons and Eclipse has a great spaceship game. The special new joystick which works on the STe, Atari Falcon030 and Jaguar will be shipping in February. It has three fire buttons and a 12 key numeric keypad.

Bill Jones: I'm a newly registered ST developer who'll buy the Falcon Dev Kit. I'm concerned about the level of developer support for the Falcon. Will support differ with the Falcon? And will the kit be more than a box of unbound papers?

Wait, re: the Video Phone question. I have not seen it myself yet but I have been promised that this will be possible. The developer kit is much more polished that the old Atari ST kit and I feel that we are devoting a lot of quality time and effort to developer support.

Rod Martin: Any signs of BIG NAME companies porting BIG NAME software to Atari (Microsoft Write, PageMaker, QuarkExpress). I think this could be one of the biggest draws to current computer owners not happy with the computers they have now.

As we build up volume, I am sure that some "big name" companies will port onto the system. I feel that some of the software now available is better than those big names and much more price competitive. We just signed up Eastman Kodak as a Developer. I think you'll agree that they are a pretty well known company.

Kent Cavanaugh: Hi Sam. Many of my customers ask about repairs. While I generally recommend our two local dealers, I was wondering what was happening with the GE service contract that was to be in place already?

I am not involved in this but will check with the US folks.

Robb Albright: There have been rumors that MultiTOS is "Not quite ready." Give us the scoop. Will it be shipping with the dealer demo units, and when (Approx. DATE please) might my dealer here in Portland, OR see his demo units. Thanks.

You are correct that MultiTOS is not quite shipping but as I said earlier, Eric Smith is now in-house and is polishing off the product and will be shipping with the Atari Falcon030.

T. Wilson (Dark Oak Sof): Is multiTOSs and Falcon info included with new developer kits or are they separate packages? I'm going to buy them soon and wanted to know.

I believe that it is all included in one kit but you can verify this for certain by sending email to Bill Rehbock, B.REHBOCK.

Bruce/Keith Klassen: Will the PTC1426 monitor work properly with the Falcon? What about new SLM'S SC-SI 600dpi? Thanks again Sam.

At COMDEX, we are using PTC1426 on a number of Atari Falcon030 workstations and we have no immediate plans for an Atari branded 600 dpi printer.

Paul Blagay: Hi sam, I was wondering how compatible the falcon will be with pre-STe software?

We took great efforts to have the Atari Falcon030 be very compatible with all Atari 68000 machine software and we think we were quite successful.

James French: Good day, eh from Edmonton. Will there be any goodies available for dealers like promo pamphlets, etc.

We, of course, will support Dealers with all kinds of marketing ST and merchandising materials.

Bill Aein: Will the street price for the Falcon be the same as Manufacture retail?

Unlikely.

Lou Rocha: Sam, could you tell us what promo literature is being distributed at COMDEX? Will there be any left for user groups, etc.? Any news about the International Software Catalog?

Atari is giving away new Atari Falcon030 literature and many software companies have attractive new literature such as Hi-Soft and DMC's Calamus. It is a good idea to send some to our loyal User groups. I will talk to Mr. Brodie about this and the new International Software Catalog is available at, I think, $12.95 retail and I'd be happy to fill your order with your VISA card #. Please call Sunnyvale and speak to Don Thomas next week, in customer service. It is, in fact, $12.00. We just checked.

Lou Rocha: Just two more... please? And could you have someone post the address for the catalog? On GEnie... of course. Bill Prang then Mike Allen to close it up.

Bill Prang: Will a 17 in multisync work on the Falcon, and what is the approximate financial investment now required to be a dealer? Thanks for your attendance.

Atari Corp., 1196 Borregas Avenue, Sunnyvale, CA, 94089-1302. Att: Customer Service, Don Thomas.

Yes, the size of the monitor is not a factor and the Dealer should be financially sound. The investment required depends on the sales targets and marketplace being served.

Mike Allen: I have heard the Atari purchased the source code to Word Up 3. I have thought that WU3 was a WP that had great potential that ALMOST had it right. Does Atari have any plans for the WU3 source code? (Will Falcon run on the Falcon?})

Mike Fulton has helped alot on the Concierge program and he has given alot of his WordUp experience to it. There are no plans for WordUp at this time.

Lou Rocha: No text block Sam. Just a tremendous thank you. I know we did not cover all the questions that were sent to you via GEnie but I would like to express my thanks on behalf of all Atarians for the time you took tonight. Best wishes. Any last thoughts?

Thanks for joining us tonight in Las Vegas. We all hope that we make money tonight at the tables. :—) Wish us luck! Goodnight.

Lou Rocha: Thanks to all the folks who joined us.

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Flopticals are to Horses...

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Happy Holidays

There aren't too many things you can do to get more bummed out than to wreck your car. This was my fate yesterday. My little blue '89 Honda Civic, at least for now, is dead.

Handy Driving Tips

The accident was not my fault. I was in a left-turn lane on a four lane road. Some "good samaritan," pausing in the lane to my right, encouraged a teenage girl in a Volvo to cross the road. Neither saw me. I had the right of way, and was going 35. Volvo girl did not have the right of way. But she hit me right away.

Bang zoom, to the moon. Jennifer, our dog Zoe, and I became a pinball and bounced off another car before we came to a stop.

I know several people who have been similarly victimized by such good samaritans, both in my position and in the girl's position. In fact, it is the single most common scenario for traffic accidents that I know. Have you or your friends or family ever had an accident like this?

Based on this evidence, I would be willing to submit that possibly the best advice for anyone who drives is to:

NEVER GIVE UP YOUR RIGHT OF WAY AND NEVER ACCEPT IT FROM ANYONE ELSE.

The person who really ought to be taken out and shot is the person who gave up his or her right of way to allow this girl to pass. Certainly, she should have known better than to accept the invitation, but it's hardly fair that she should accept all the blame. Her "friend" bugged out, and is not legally responsible for what happened.

People may become unsettled if you don't accept their warm-hearted, kind, gestures in parking lots and at intersections. But the bottom line is that you are ultimately responsible for your actions. And no matter how nice someone may look, they could be blinder than a mole and dumber than quartz. And if we are all individually responsible for our actions, we had all better be prepared to use our own two eyes and cars to help make our decisions. No one else's work as well.

Fortunately, the four people and one dog involved in this accident yesterday are all functioning properly. Jennifer and I are a little stiff, but OK.

Both the girl's car and my car suffered a lot of damage. I have a cracked windshield and a passenger door that won't open or close. We found some heads of bolts that had been sheared off. The right front wheel squeaks like crazy and is bent in at a 45 degree angle. To drive straight you have to hold the steering wheel 180 degrees to the right. Loads of fun. I don't know if they can save it or not. At least it's all paid for.

Anyway, at least I got that out of my system. Just drive smart, folks.

Flopticals

One of the most intriguing new technologies on the ST horizon has been the Insite Peripherals 21MB floptical drive. As I've had a couple of months' worth of experience with them now, I thought I'd say a few words about them.

First off, the drive mechanisms themselves are awfully small—1 inch high floppy-type drives, the same size that PC 1.44 meg drives are these days. They support three formats: 720K, 1.44MB, and 21MB.

I have already talked about how all these formats work (see M&M Jan/Feb 1992 *CN* and M&M, Jul/Aug 1992). To refresh your memory on the 21MB format, the drive uses a laser to optically track the head position. This means that the magnetic read-write head can be positioned anywhere on the disk, to within an extremely tight tolerance.

The read and write process is the same as on a standard floppy drive. To write, a current is applied to the head to create a magnetic field, which causes the "rust" particles on the disk medium to realign themselves to complement the magnetic field. For reading, the magnetic field created in the particles induces a current in the drive head, and so you can reproduce the signal you recorded in the write process.

In the "high density" article, we talked about how the density of the coating on the disk would need to be greater to record more data. (1.44MB disks truly have a denser coating than 720K disks.) Floptical disks are "extra high density."

Standard floppy drives use "stepper motors" to move their heads back and forth. The physical construction of these motors allows them to "step" in fairly accurate increments. Thus, when we "step" 80 times with a stepper motor, we could be fairly well assured that the disk head attached to the motor would have moved a specific distance.

These stepper motors are not perfect; they might be off by some percentage most of the time. For floppy disks, this percentage of error might be tolerable. On 720K and 1.44MB disks, we're only talking about 135 tracks/inch. You're facing a much greater track-per-inch and sector-per-track density when you get into Floptical technology.

So on Flopticals, to insure that we go to and stay in the right track (think of it as a circular planetary orbit around the center of the disk), a special "laser track" is embedded between each physical track on the disk.

The laser track is not something that is used for storage, and the drive cannot modify the laser track. The drive

merely aligns a laser to it and uses a feedback-loop mechanism to insure that the laser remains aligned to it for as long as we want it to do so. In this respect, the drive is optical, like a CD player.

In fact, it ought to be possible to create "Sound Byte Flopticals" that used the optical alignment tracks to store bits of sound data. (Just align to it, read the data, send it to some digital to analog converters, and out to an amp and speakers.) But the optical tracks are written to these special disks at the factory, so you'd have to choose what sounds you'd want in your floptical tracks in advance. Maybe in 1995.

To summarize, the laser here is read-only and it is not used for anything else but to make sure that the read / write head stays inside its orbits better. Since we then have tighter control over where the read / write head is positioned, we can use it to store data denser and more accurately.

With the help of the optical alignment tracks you can cram over 700 magnetic tracks on every disk, and more than 35 sectors in every track. This gives us the whopping 21MB of storage.

Floptical Reliability

The big question that always seems to come up with high capacity removable storage devices is reliability. The last time this happened was with the SyQuest 44MB & 88MB drives. They have proven to be very reliable indeed, and compatibility between drives is better than excellent.

In my testing, the Flopticals have been reliable enough. The laser alignment gig really helps to insure interchangeability between drives. Just from looking at the physical materials involved, though, I think we can assume that Flopticals have to be less reliable than SyQuests.

First off, SyQuest platters are physically bigger than Floptical disks. (About 39 square inches of usable area as opposed to 17 on a floptical). When you work it all out, the ratio of megabytes per square inch on a Floptical is about the same as on a SyQuest (roughly .85 on a floptical and 44Mb, about .44 on an 88MB drive). So from that point of view, the 44MB SyQuest and 21MB floptical are equally reliable.

Consider though that SyQuest disks are made of aluminum and are about 1/16" thick. They are much less susceptible to warping and melting than the translucent plastic film used in floptical disks.

The actual media housing is much tougher on the SyQuest, too. You're dealing with a heavy duty, rigid plastic case, not a flexible plastic shield.

SyQuest drives operate like hard drives. The head never touches the medium. Flopticals, though, operate just like floppy drives—the head always touches the medium. This is bound to cause the medium to wear out sooner.

So when we look at it from this point of view, there is no way that a floptical can possibly be as reliable as a SyQuest drive. But even if they are 50% less reliable than a SyQuest drive, they're still pretty reliable! And as I said, I have had no problems thus far.

Speed

Your average SyQuest SQ555 removable has a transfer speed of about 500K per second and an access time of about 30ms.

Floptical drives have a transfer speed of about 95K per second and an access time of about 135ms.

You don't have to be Leonard Tramiel (he really *is* a rocket scientist) to figure out that Flopticals are SLOW! Because Flopticals only rotate at floppy drive speeds, because they do not spin continuously, and because of the lack of a robust medium, Flopticals can't help but be significantly slower than a hard drive or SyQuest-type drive.

Cost

You can find floptical systems in the four hundred to five hundred dollar price range, most coming with the drive, interface and one disk. Floptical disks cost about $25 each. SyQuest 44MB disks are about $70 each, and 88MB disks are about $100 each.

Look at the chart here to get an idea about bang for buck. It is true that Flopticals are second only to standard floppy disks when it comes to dollars-per-megabyte. And it's also true that flopticals are much faster than standard floppy drives.

I like to use the following analogy. "Flopticals are to SyQuests as horses are to cars. And they both beat walking." This is an accurate representation. A SyQuest can go, on the average, about five times faster than a floptical. And they both are far superior to floppy drives.

Another good number to examine is the cost of the drive with 200MB worth of media. (200MB is a fair number and provides a decent average of the cost of the drive and the cost of the media.) You can see that the SyQuest 88MB drive costs about $300 more, and also goes about six and a half times faster.

It seems to me that people routinely pay $300 or more for speed increases of that type—hence the existence of Warp 9, SST boards, AdSpeeds, Turbo 030's, etc. It is not smart to disregard the performance issue when you're considering buying a floptical.

The Budget Issue

On one hand it seems that the advent of floptical technology is a blessing for those who want to get started with mass storage cheaply. And not just mass storage, but *removable* mass storage. This is really not the case.

A floptical drive is not a good choice for someone who doesn't already own a hard drive, as it does not solve anywhere near all the problems that a hard drive can solve.

You cannot boot from a floptical drive. The floptical drive needs to have a driver loaded (ICD's) to be accessed, and unlike a hard drive, the floptical cannot be accessed *at all* (to load a driver) until the driver is loaded from disk. So all the convenience of an auto-booting hard drive is voided with a floptical. (You CAN boot from a SyQuest type drive.)

The other reason many folks need or want to use a hard drive is speed. We've already said that flopticals are not very speedy.

So the siren-like allure of "cheap and removable" shouldn't be quite so powerful. Yes, flopticals are cheap and removable, but they are slow,

Flopticals are to SyQuests as Horses are to Cars...

Drive	Insite 21MB	SyQuest 44MB	SyQuest 88MB	1.44MB Floppy	Hitachi 680MB
Cost of Drive (No Media)	$425.00	$575.00	$700.00	$100.00	$1,500.00
Cost of 1 Disk	$25.00	$70.00	$100.00	$1.10	$0.00
Dollars per MB on Each Disk	$1.19	$1.59	$1.14	$0.76	$0.00
Cost of 200MB Worth of Media	$238.10	$318.18	$227.27	$152.78	$0.00
Cost of Drive With 200MB of Media	$663.10	$893.18	$927.27	$252.78	$1,500.00
Number of Disks Required for 200MB	10	5	3	139	0
Overall Dollars per MB Including Media	$3.32	$4.47	$4.64	$1.26	$2.21
K per Second (Theoretical)	95	477	699	45	1503
Dollars per K per Second	$6.98	$1.87	$1.33	$5.62	$1.00
Access Time (In Milliseconds)	134	35	30	300	19
Time Req. to Write 5MB File (Theoretical)	54	11	7	114	3
Actual Time in Test	54	12	8	405	5
Actual K per Second	95	427	640	13	1024
Speed Rating (Percentage of Floptical)	100%	449%	674%	13%	1078%

non-bootable, and intrinsically less reliable than other mass storage devices, removable or not.

Good Uses for Flopticals

The best use for a floptical is for drive backup. You get to take advantages of the technology's biggest strengths—cheap and removable—when you use the drive for this purpose.

You could also use a floptical for storage of infrequently-accessed files and archives. If you do desktop publishing you could store old projects on flopticals, to have them on file.

Flopticals share two advantages of SyQuest drives: easy data security and complete personalization of space. If you work for the CIA and want to keep all your work data away from your family, you could keep that disk in a safe. (Something you can't do with a hard drive.)

If you wanted to make sure that everyone in your house had a good amount of space to store their files, you could issue them all disks. This would insure that your precious files wouldn't be bothered by your kid.

There's no reason why you'd have to use the floptical as your "working drive" either. If you have a hard drive, you could make sure that it always had 20MB free and copy the contents of a particular floptical to that partition at the start of the session. Then, when you're done, you could move all the files from the hard drive back out to the floptical. Kind of a pain, but at least then you don't have to put up with the slow operation of the floptical drive.

Re-Evaluate Your Backup Strategy

I've said this enough that my mouth is tired, but I'll say it again. Don't back up too much.

The computer industry and press has told us all that we need to back up our hard drives all the time. This is 99% nonsense.

Yes, hard drives sometimes fail. Yes, it is possible to lose a large amount of data. Speaking as someone who has crashed more hard drives than parties, I have almost never needed a "full backup" of my drives.

There are two kinds of files: files you create and files you copy. Files you create are irreplaceable. Back those up. For most people, "created" files might take up only five or ten disks.

Copied files, by definition, came from original copies. Don't waste your time by making copies of copies. The originals ARE your backups.

When you make a "full backup" of your hard drive, whether it's to floppies, flopticals, SyQuests, or to another hard drive, you're spending your valuable time copying stuff you have copies of elsewhere. I usually have better things to do, like bathe in a lovely mixture of rock salt and ice, or get my toes individually removed with tree pruners.

Picture this scenario. Mr. Jones has a 50MB hard drive filled with *LDW Power*, *PageStream*, *Warp 9*, *Timeworks DTP* and a folder of some files he downloaded from GEnie. Every night before he goes to bed, he takes a stack of disks (whether they're flopticals or floppies or SyQuests) and backs up his hard drive, completely. This takes him between five minutes and an hour, depending on what device he's using.

Mr. Jones has only one set of files on his hard drive that is irreplaceable—that's the stuff he has *made*. He should backup every file he has made. But if he has done it once, he doesn't need to recopy them every night. He can get by with just backing up the *new* files.

Everything else on the drive—the software packages, the GEnie files—can be replaced easily! Why waste your life copying this stuff around?? Yes, if you're hard drive crashes, you'll have to reinstall your software. Not a big deal.

It beats copying stuff around all the time.

Yes, there are backup programs that will copy only the stuff that's changed since your last backup. This can be helpful, but the daily annoyance of "backup time" will still drag you down. My theory is that if you're scared of losing something, copy it to a couple of different places RIGHT AWAY. Don't wait 'til backup time.

This illustrates that you can accomplish a sensible backup just as easily with floppies as you can with a floptical or a SyQuest. Don't let dumb backup habits and general paranoia be a false motivation to buy either of these drives.

Flopticals and SyQuests start to make more sense when you're talking about backing up LARGE database files and otherwise irreplaceable business data. I use a SyQuest for this purpose on my point of sale system, but have no need for anything near that extensive on my personal machine.

Software Support

The Insite 21MB floptical is compatible with all standard ICD host adapters (AdSCSI, AdSCSI Plus, and Link). The floptical has been widely advertised in conjunction with the Link recently, possibly giving the false impression that they require a Link to operate. This is not true.

What makes the flopticals work is ICD's latest software revision. To achieve reliable operation with a floptical, you will need ICD's version 6.0.4 software or later. This version is officially called "The Link Driver," and does not ship with standard host adapters. You can upgrade to this version for a nominal fee if you are an owner of a standard host adapter.

This version of the software is also compatible with Sony compliant CD ROM drives—a subject I will tackle here soon. But for now, let's just say that you can use most CD ROM drives with any ICD host adapter, too.

The 6.0.4 software treats the floptical drive much as it handles SyQuests. It handles media change requests beautifully (so you don't overwrite disk directories and FATS) and it also handles 1.44MB and 720K disks just fine. This brings us to my next point.

1.44MB Capability

One extra benefit of having a floptical at all is that it is compatible with high-density 1.44MB disks. But bear in mind that this drive is being driven more like a hard drive than like a floppy drive.

This means that you can't really use it like a floppy drive. To format a 1.44MB disk, you have to go into ICD's formatting utility. You can't format it from the desktop, nor can you treat it like a "B:" drive. On my system, the floptical comes up as "L:" (right after my C: - K: hard drives.) So programs like *ProCopy* (or anything that looks for a "B:" drive) will not work with the floptical. All copy operations must be done file by file.

When you insert a non-floptical disk into the drive, it has to chug and churn at it for a second to figure out what kind of disk it is. (I can see it asking, "Hey, man, where are my optical laser tracks?") This is an annoying hindrance when you're trying to get a disk directory quickly.

It is also doubtful that a floptical would work with copy protection of any sort. Most of this stuff is handled at the drive controller level, and flopticals live elsewhere.

When you compare a floptical drive to a standard 1.44MB floppy (as they exist on the Mega STe, TT030, and Falcon, and can be added to many other existing ST's), the floptical seems kind of lame. It's loud, slow, and incompatible with many programs. Forget using it as a second floppy under Spectre!

Overall

Dollar per megabyte, flopticals are not too bad. From a speed point of view, they're a rip-off. But if you see a legitimate use for one, I will say once more that having a horse beats walking.

I don't think I will keep a floptical on my personal system, but I will probably be using one as a portable drive to backup database files from my different businesses.

New Technology

I think we can all expect to see all sorts of new storage technology in the next year. 128MB Magneto Optical drives (which are similar to flopticals but actually do use an optical process for storage, not just tracking) are currently in the $1,000 price range, but are quickly becoming less and less expensive. And they are much much faster than flopticals.

Flopticals have been out for almost nine months now, but it wasn't until August that ICD's software made them usable on the ST. I would expect that floptical prices would drop within the next year, rather substantially, as almost all the margin has been squashed from the PC (read *profitable*) side of the floptical market.

Even more than existing technology, we should watch out for new developments. Hard drives are getting cheaper and smaller, and people are just getting to be more and more knowledgeable about how to store bits. I predict that by the end of 1993 there will be an affordable, fast, 300MB, SCSI-2, read and write, removable mass storage device available for under $500. Until that happens, you might want to get a floptical, or a SyQuest if you need speed.

See You In February

Well, all us *CN* goofs are going to go off for a month and have our Christmas jollies. I wish the same to you all.

Don't be sad if you don't get a Falcon before Christmas; hardly anyone will. Atari has been saying all along that most folks won't see them until early next year. February is a very good bet.

By the time you read this, Jennifer and I will be married, (only TEN days away? Geez...). And maybe I'll have my car fixed, too. Best wishes for a fun and wreck-free holiday season!

If you'd like to reach me in the meantime:

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Small World

Thank You

By: David Small

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This being the Season of Gifts, I would like to give a gift that has been a long time a'comin. It is a gift of thanks.

Today we live in Denver, Colorado. It's a beautiful place to live. Adding oxygen additives to the fuel has really cleaned up the smog problems; the 14,000 foot Mount Evans is right out to my west, "purpled mountain majesties," snowcapped, breathtaking every morning we drive my kids to school. Denver's coming back from its recession of the 80's (when the Denver-based oil companies crashed). I write software and build hardware and do what I love to do.

If you think the Spectre GCR and such are neat, think of what Bert Rutan wrote after his Voyager airplane flew around the world, non-stop, on a tank of gas. (Remember? The plane is in the Smithsonian.)

See what free men can do.

I have done all that I have done because I was free.

For this, my deepest, most heart-felt thanks to many, many people. Thank you for what you did for me and for my family.

My wife Sandy would have died without the fine medical technology we have from freedom some years ago. I owe a new lease on life to the same thing at age 34. My son Eric probably would not be walking today without it. Jennifer would have died of meningitis before she was a year old without the very finest there was in Austin; thank you for her life, even if she Won't Get To Bed as I write this! (*grin*)

Well, I guess her arguing with me is the "Sound Of Freedom"...

I will never be able to thank so many people individually. This magazine will reach some. Some are gone, such as Kelly Johnson, father of the U-2, SR-71, P-38, and other engineering miracles. And most I will never know. But from the ones I do know, I know of the sacrifices they all made, *and are making now.*

As I write this, the connections to the ST world are amazing, as you'll see.

Martin

My next door neighbor worked at Martin Marietta by Waterton Canyon, 15 minutes drive from my house. They used to build the Titan rockets there. The Titans were the backbone of our space program and nuclear arsenal for years, and the magnificent III-C booster put many a satellite up, but business is slow now. He's been laid off, as has most of their workforce. He and many, many other people are looking for a job.

Another friend who writes ST games used to work programming ICBM's (missiles) so they would go where they were supposed to. It bothered him a *lot* to be targeting cities because he was intelligent enough to know what the consequences would be if his program was ever used. But he did it, *because it had to be done.* He "stood his watch" and did not fail. Because of people like him, the peace was kept. Now, he, too, has been downsized out.

Recon

My wife's dad was nearly killed ejecting from a YF-12A that was on fire and going down fast; the YF, like the SR, does everything fast. As it was, he came away with a wrenched ankle, and, possibly worse, PILES of paperwork to fill out... because very few SR's have *ever* gone down, and the Air Force wanted to know exactly why this one augured in. (Robert Kennedy ordered the SR-71 molds broken, so we no longer can build SR's; the ones we have are original production run, so every one is precious.) The SR-71 and its companion, the U-2, both the brainchild of Kelly Johnson, enabled us to keep watch over the world, which *kept the peace.* The SR-71 is the fastest plane ever built, and we dedicated the 68030/SST accelerator to Sandy's dad and the SR-71.

For instance, when nuclear-tipped missiles were installed in Cuba, 90 miles from the USA, the U-2 did recon and took pictures, which President Kennedy showed the world. The missiles were later removed. The point? *There was no Pearl Harbor there. It kept the peace.*

The SR-71 kept the peace between Egypt and Israel in the 70's, taking photos that proved that one side had not moved from treaty boundaries. That proved absolutely critical to one side not restarting an offensive. And there are rumors the SR's flew again during the Iraqi war, never confirmed, but I hope so; it means something to me to see our most magnificent achievement in the air fly.

Nowadays, recon has pretty much switched over to satellites, such as the KH-11, and the NSA's sophisticated listening network, and whatnot. Reportedly the KH-11 is able to tell from orbit just how thin my hair is getting ... come on, Minoxodil!! (*grin*)

(Nowadays the talk is all about a Mach-4 jet that puts out odd, pulsed contrails—they look like a string of pearls. Aviation Week has run pictures of them. Looks like Kelly Johnson's Lockheed "Skunk Works" plant is still turning out the best there is.)

There was a terrible price paid for this ongoing surveillance, which started right after World War II. (That's 50 years, people!) But there were people who did the job when it had to be done.

I remember an ex U-2 pilot describing to me watching the Soviet SAM (Surface to Air Missiles) being fired at

him, and watching the missiles come up towards him, finally run out of fuel, tip over and fall; the U-2 flies at an *awesome* altitude due to its wingspread. (How would *you* feel watching an incoming missile doing its best to scatter you across the sky? He called it "pucker factor").

Unfortunately, the Soviets got better missiles and we lost U- 2's, which is why we got SR-71's and KH-11's. We lost other planes in earlier days, 1946-1960, B-29's and others with recon gear; the newspapers today tell of the crews being executed within the Soviet Union if they made it down alive. To those anonymous souls, thank you, and God bless you.

Korea

Jerry Pournelle, the computer writer for *Byte* and other places, and very good SF writer, lost much of his hearing because he ran an artillery unit in Korea in the early 1950's, during the Korean War. His artillery position was overrun several times during the retreat to the Pusan Perimeter on the very southeast tip of Korea; we came within a *whisker* of losing Korea. People like Jerry prevented it. He has paid for it for the rest of his life.

My father served in Korea and to this day does not speak of what he did in Intel; he takes his secrecy oath seriously. I know others who do the same.

Does this matter to you? Your ST?

Look on the chips in your machine! You'll probably find a "Made in South Korea." Look what free men have done there; to the North, a stone-age dictatorship; to the south, an evolving society, still not perfect, but developing.

Germany and Japan

Instead of treating Germany and Japan as conquered nations after WW II, the USA's Marshall Plan went in and helped the countries rebuild. As a result, both Germany and Japan are now industrial powerhouses. Germany is the ST stronghold; Japan is where we get the parts, and if you look at the ST's repair schematics, they say Atari-Japan. 'nuff said.

SAC

Strategic Air Command in Omaha has, as its slogan, "Peace Is Our Profession." SAC holds the keys to more firepower than has ever been released by man, total, since history began. While there are those who would deride that slogan, *I point to the record.* Despite vicious rivalry, outright murders, psychotic leaders, and a real rosy political system in the USSR (that former government is the greatest mass killer ever known to mankind), *we had no war.* I repeat, WE HAD NO WAR. It's worked for 50 plus years.

And SAC still knows its stuff: ask the Iraqis lucky enough to be, oh, 20 miles from an "Arclight" strike, reportedly so strong that bacteria cannot survive. Or ask the ones that saw the "Daisycutters" bombs dropped, each with 15,000 pounds of explosive; they are so powerful they produce a mushroom cloud, but are non-nuclear. (British SAS teams up north thought we had brought in nukes!)

Imagine flying 15 hours from England on a mission to bomb Libya to bring a halt to terrorist bombings, notably in Germany. I had 200 hours in air before I was 10 years old, and I can tell you, 5 hours is enough for me! And did you notice how quiet Khaddaffi has been since?

One of our most-known-still ST programmers worked with the Air Force making sure certain planes' electronics didn't stop working in midair and fixing known bugs. This isn't a real glamorous job, but it had to be done, and he did it, when it was needed. He paid the price financially, I'll tell you. He's now working for an ST product manufacturer.

For decades, since the Soviets were given our nuclear technology (DAMN! We needed a look-and-feel lawsuit in 1953! (*grin*)), crews manned missile silos, going underground in hardened concrete rooms, running tests on their missiles, for around two weeks at a time. They paid, every one. SAC Aircraft crews were in ready rooms, or cruising in BUFF's (B-52's), literally manufactured before the crews were born! All were waiting, and dreading, a Go code to respond to a nuclear attack. It never came, thank God, but they were there, and they paid the price. Many are retired now; many are looking for work.

Before them, another generation manned the B-47 and B-58 Hustler for the same reason. They were never given the Go codes either.

It worked.

One of our sometime *Current Notes* writers worked in a silo, and it is breaking no secrets to tell you it was near the concentration of silos in Minot, North Dakota. Minot might not have been where he *wanted* to be stationed, but he went anyway. Some stationed there develop agoraphobia because of the endless prairie, and must be transferred.

(By the way, Sandy's roots are very close to Minot).

Aerospace

In Southern California, it's estimated that 200,000 people in aerospace/defense are now looking for a job because of cutbacks and layoffs. We see "XC 68030" chips being dumped on the market by defense contractors that can no longer use them because of cancelled contracts (that's why you can get a 50 Mhz 68030 for $80 instead of $450 right now—hint, hint!).

You saw the work of some of these contractors in the Iraqi war. In a few days the Iraqi army and armored units were completely pasted with an *incredibly low loss of life* to the Allied troops. The F-117 Stealth bird went "downtown" over Baghdad, into an intense SAM network resembling Hanoi's worst, but couldn't be seen on radar. The Patriot missile stopped SCUD's (made in scenic North Korea) before they could land on civilians in Israel and Saudi Arabia. (Dan Quayle, when he was a Senator, was the one who forced Patriot anti-missile capability. Give him credit.)

SAC said "Peace Is Our Profession"; the Southern-Cal technology *saved lives* by the thousands in Iraq; recon saved us wars; Libya is Real Quiet these days.

Are you seeing what I'm saying? This stuff saves our lives.

(Funny thing. Not too many stories about "$500 toilet seats" after the Gulf War (and with the requirements THAT seat must have, that is an honest cost) ... and no more stories about "Our Weapons Won't Work," either. It's hard to argue with a TV picture of a Tomahawk steering precisely into an air-vent of a hardened shelter.)

The B-2 stealth bomber is pretty amazing as well. It is said to have the radar "signature" of a bird! Unfortunately, we are building so few that we are not getting any economy-of-scale, due to no one's friends in Congress, so they end up being extremely expensive individually. (dumb, dumb, dumb.)

A relative worked on the B-2, but with the shuffling at Boeing, the future is uncertain. She did her job when it was needed, but again, she may pay a sacrifice for it.

All good people who made THEIR "symbolic statements" by saving lives and with their careers, and who sacrificed to do so. That's why we offer a military discount on Gadgets products and encourage other ST developers to do the same. (And isn't it interesting how many other ST connections there are in all this?)

The Quiet Ones

Of course, there are the ones that can't or won't say a word in all this, too. They are the ones who watch and listen, analyze, try to predict. Sure, sometimes they've slipped up, but the times they've won, they can't talk about, so the record comes away looking skewed. As for predicting the future, look at any weather forecaster for how easy that is.

And it's not glamorous and it's not sexy and there's no glory or thanks. But the job must be done, some are responsible enough to see that, and the people are still doing it today. In our ST community, I know of a few, and that's all I'm going to say about who they are. Thank you, too.

(An aside: At WAACE, a fellow came by and asked about the SST. He didn't give his name, but mentioned he lived at Fort Meade. I said, "NSA? Or are you allowed to say?"

With a broad smile, he said, "I am not allowed to confirm or deny ..." at which point we both broke up laughing. ... He got the discount, too.)

The Air Force, Marines, Navy, and Army (one friend of mine from college is an Army Reserve Captain, and I am proud to know her; she almost went to Iraq), are all being downsized now, some completely. These people are now looking for a job, too.

There are those that yack about how we supplied Iraq with intel and equipment until the war. Well, considering they were fighting Iran (remember? Our Embassy? 1980?) I can hardly fault doing that. And personally (let's not get into an argument), I think we can all agree that IF the contras in Nicaragua were going to get funded one way or another, it is *hilariously funny* that Iran got to pay for doing it. (Gee, I'll probably get Salmon Rushdie'd for this. You know that bounty is STILL on?)

Yes, there are those that yack. They had 'em in Ben Franklin's time too.

But, there are those that say "Thank You," too. I and my family are among those.

Parade

After Desert Storm, the troops and planes and ships came home. And there was a huge parade in downtown Denver.

I don't know how it went where you live. But the troops got cheered by the crowd the whole distance of the parade, many of us, including me, with tears in their eyes. At that moment, the meaning of being an American was very clear in my heart.

After the Desert Storm troops and F-117 overflight, came the Vietnam vets.

And the cheering was even louder. And nearly every face marching, some in their fatigues from 20 years ago, had tears rolling down it. Heads held high and shoulders back. No one was yacking at them now as they got off the plane, shell-shocked and tired, calling them baby-killers; people were saying Thank You.

And so am I. What they did was not in vain. Yes, we lost Vietnam. We did *NOT* lose Thailand or Indonesia ... and if you do your research, you will know how close that was, and what could have been. The delay until 1975 made a lot of difference.

I don't need to tell you a lot of Vietnam vets own ST's (yes, the discount applies). They went, and they changed the world, and only now are they getting the thanks they deserve.

Conclusion

For me, the time never came. And as I look inside my soul, I regret it.

I guess 20/400 vision, flat feet and downchecked knees don't turn on the armed forces, and I never got the grades for the really classy stuff at the intel places (see previous column on college). Sandy didn't –quite– make the Air Force Academy; now that would have been a different destiny!

While an editor of START magazine and I agreed that our career goal was the end of the Soviet Union, and that this mattered the most to us, we never had a chance to do much about it except celebrate when it happened. (He got married not long ago).

Sure, a few in the computer press complained about the "evil" of doing military contract computer work, like the (in)famous Dr. Dobbs article on same a few years back. Not all of us writers feel this way, to be mild about it. Me, I sent ideas into CIA involving taking out hostile ICBM sites with EMI, where experts with more knowledge about the subject than I could look at the concept (look, a stranger concept involving Mac ROMs and the ST worked!), then hired ex-military people for Gadgets, and we made sure military got a discount on what we made.

That's OUR "symbolic statement." You should see the videotape of myself and an editor from A.N.A.L.O.G. magazine checking out an M-16A1, too. (Funny, he got married recently, too).

What I can do is tell you that ex-military and so forth are welcome and that we here at Gadgets appreciate what you did more than I can manage to find words for. Thank you. I owe my life and my family's to the collective effort of you people.

Ultimately, the entire ST, and our Gadgets stuff, owes its existence to *what you did*. As was sharply pointed out to me, everyone can't be military; there

have to be civilians, and a way of life, to fight *for*. Somewhat to my annoyance and regret, that's my role.

(And yes, even the folks complaining about "the military" must have freedom of speech; me, I can always turn off the TV, too.)

We at Gadgets, a little business, always were supported by you from the very start. As the old quote says, if I did anything great, it's because I started from the shoulders of giants.

It's a crazy new world now. I just got another resume from someone in the former USSR; apparently the State Department won't let he and his family emigrate to the USA unless there's a job waiting. His resume shows him to be a sharp programmer, and I would like to help him, but I don't think I can; I'd like to help anyone get out of the vast unknown that was the USSR.

Believe me. After the CeBIT show in Hannover, Germany, we drove to Berlin, and saw where the Berlin Wall had been, and made sure the kids understood that just a year ago standing HERE would have meant being machine-gunned. We took a side trip into East Germany and saw what that meant ... it looked like going back in time 100 years or so to me.

After that, I'd like to help out anyone there I could. But our economy isn't that great here. (However, people in the former Eastern Bloc are welcome to Spectre 128's while the supply lasts; I know there are dynamite programmers in Hungary, for instance.)

And, to be honest, I would really, really prefer to hire ex-military or related aerospace when we hire again. I'd like to pay back just a little of the amount that's so large I can never pay it all. I'd at least like to try.

It's a crazy new world, yes. But I have yet to read ONE article, anywhere, just stopping and thanking the people who got us *through* to this new world, who "stood the watch," and it's high time for one. I think the ST world is lucky to have in it many people who were involved in this, but the ST tends to be owned by people with good sense anyway.

Thank you all, and may your 1993 be your best year ever.

Dave Small

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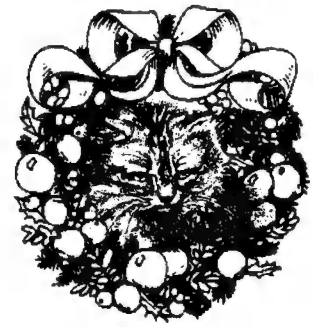
Wife: "Don't interrupt me; I'm working on the taxes."

■■■■■■■

The Junkyard Pussycat

by John Barnes



Third parties in the Atari community have been busy all year long trying to bring a few nice surprises to the user base. While Atari dealers may be grumbling over the tardy emergence of the Falcon030, a few developers have remembered that the number of 520s, 1040s, and STe machines in the hands of users still represents a market that is worth targeting with new products.

The items listed here are known to be available from Atari dealers. Check the ads in this issue of *Current Notes* for competitive pricing.

Software Goodies

Right at the top of the Pussycat's list on the software front is *Warp9* from Codehead Technologies. From the purely practical point of view, *Warp9* is an outstanding screen accelerator. Your ST will perk up its ears and run around wagging its tail. *Warp9* also appears to be the cleanest animal of its species in that programs that would crash at weird places under *QuickST* are now much more stable. The screen saver feature finally provides Atari users with some of the fun that products like *After Dark* have been providing to Mac and PC users.

Another really nice item is *Diamond Edge* from Oregon Research Associates. This is designed to help even the relative neophyte regain his composure after seeing one of the "Data on Drive X May Be Damaged" dialog boxes that are so disconcerting. Disk structure rebuilding is just one of the functions in this feature-packed product. Taken together with their *Diamond Back II* and *Ultimate Virus Killer* products, this gives ORA a clear leg up as the vendor for "total disk protection."

Wintertree Software has released a nice spelling checker named *Spelling Sentry* for people who are looking for something to replace the classic *Thunder.*

Power Software

STraight Fax has continued its upward spiral of development with support for flatbed and hand scanners. Its alignment algorithm for piecing together halves of pages scanned in with a hand scanner using a tray is really first rate. Those who lack the talent for hand scanning will find the flatbed option very nice indeed. Together with the receive capability, this gives *STraight Fax* the potential to provide a complete Fax solution.

Calligrapher Gold, distributed by Codehead Technologies, may finally break the math barrier, allowing authors to incorporate math symbols and equations in their word processing documents.

PageStream 2.2 seems to be a mature product that is asserting its rightful place in the Atari DTP world. As the only product that does a sensible job of supporting Postscript it is a clear leader for those who need to use service bureaus.

Hardware

One of the first things you can do to get new computing pleasure is to replace your tired old modem with one of the new high-speed data/fax models. Built-in error correction gives, in many cases, particularly with the major online services, a marked reduction in line noise. Communicating with BBS's and mainframes at 9600 baud is a real thrill. Prices have dropped drastically since last Christmas and capability is on the rise. The Pussycat's personal bet is on *Supra*'s V.32bis 14,400 baud model.

The *CartMaster* from Wizztronics that I saw at the WAACE show looked like a pretty nice little deal for those are tired of swapping cartridges on their machines.

TOS 2.06 is a nice upgrade for those who have already stuffed 16 MHz accelerator chips and 4 meg memory upgrades into their older model machines. Codehead Technologies and Wizztronics both offer products for doing this. Both products require getting under the hood in fairly invasive ways, so you may want to check with a dealer or another user before trying this.

Those few lucky souls who got TOS 2.06 on Mega STe machines before Atari decided that they didn't like this model have found it to be a significant advance in terms of smooth operation and added functionality. The Pussycat loves the "File Search" function, which does a nice quick job of finding those misplaced files.

By the way, if you are really in the market for a replacement for an old machine, the *Mega STe* is really nice, if you can find one. It is just impossible to say too much about the advantages of a built-in hard

drive that is easily accessible without tearing the computer apart. TOS 2.06 and 1.44 Mb internal floppy drives are neat add-ons. The Pussycat has no idea why Atari hates machines with detachable keyboards. They must cost too much to produce or something. The customers, however, are making their views known.

The price of *TT*'s has come down as Atari tries to leverage something out of the stuff that is gathering dust in their warehouses. The Pussycat does not recommend this as a general purpose machine, as too many instances of software incompatibility have been reported. It does appear, however, that the electrical gremlins that plagued early models have been largely banished and most productivity software seems to work fine.

Most users are adopting a "wait and see" stance in the hope that the Falcon030 and its rumored brethren will finally offer a fast, integrated architecture to make applications really sing. The demo machines that have been floating around the country have impressed most viewers with their video capabilities. The added sound features are pretty amusing also.

ICD's *LINK*, a gadget that builds an ACSI to SCSI converter into a package the size of an RS232 plug, offers a nice alternative to Atarians who want to avail themselves of some of the many nice peripherals available for Macs and PCs.

CD-ROM players, read-write optical drives, scanners, and Ethernet cards are a few such devices, and more seem to be appearing all of the time. Perhaps the *LINK* will facilitate software development by giving older model Atari computers access to some of the same gadgets that the newer TT030 and Falcon030machines can talk to.

One word of caution, however: there are indications that not all SCSI devices work properly with the *LINK* because of the way it draws its power from some of the lines that SCSI device manufacturers may not have intended for that purpose. The Pussycat did test it with a Syquest drive for a Mac, but more tests need to be made.

Coming Soon

To be closely watched at the turn of the new year is *STORM*, a new telecommunications program from Alan Page, the author of the original *Flash*.

Another item to look for is the *Chromax* board from George Richardson's Merlin group. This may finally provide ST users with monochrome and extended color capabilities in a single economical monitor at a reasonable price.

The Spirit of Giving

The Pussycat has recently been made aware of a number of organizations that are soliciting donations of used Atari computers. Given the number of users who have spare machines sitting around after upgrading a couple of times it would be nice to find some places where these computers could find new life in the hands of people who can make good use of them.

In highlighting such activities the Pussycat would like to be able to tell his readers how the machinery is to be used, what structures are in place to provide continuing support, and what sort of a base is present to ensure that donated equipment will be fully appreciated and used.

Atari activists who work with organizations of this type are hereby asked to send along descriptions of their activities so that the Pussycat can help his readers contribute to these ventures.

The idea of coupling the good will of the Atari community and the needs of people who can use some help somehow seems especially appealing during the holiday season.

Ways to contact the Pussycat:

US Mail:

The Junkyard Pussycat
c/o John D. Barnes
7710 Chatham Rd.
Chevy Chase, MD 20815

Electronic Mail:

GEnie: J.D.Barnes
DElphi: JDBARNES
Internet: johnbarnes@enh.nist.gov

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STARTING BLOCK

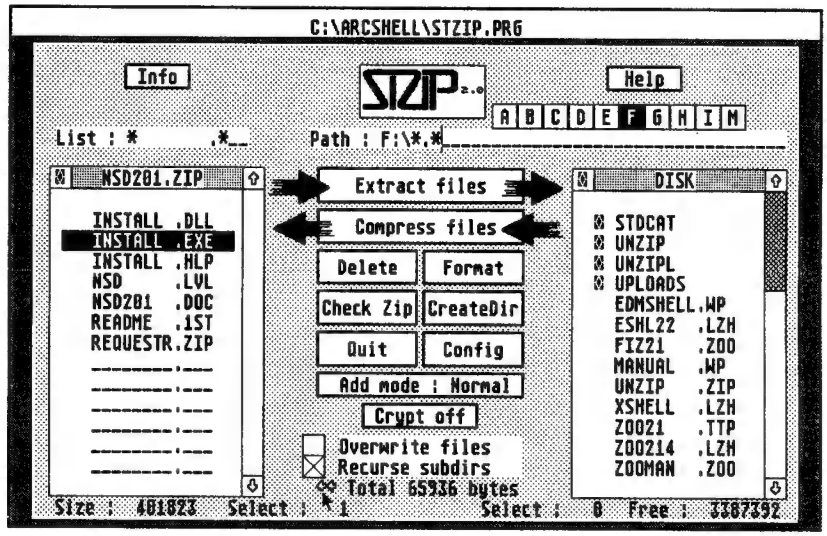
by

Richard Gunter

ZIP-A-Dee Doo Dah...

A few years ago (mid-'80s), Phil Katz' company, PKWare, was distributing programs that compressed and extracted files using the ARC file format. A lawsuit was brought by System Enhancement Associates, Inc. (SEA), who claimed copyright over the ARC format. The suit was settled out of court, and a later contempt motion filed by SEA returned a judgement in favor of PKWare.

Subsequently, Katz created a new file compression format independent of and incompatible with ARC, naming his new format ZIP. He released both the format and the file extension used to identify them (.ZIP) to the public domain. PKWare software is copyrighted and distributed via the shareware mechanism.



Since its introduction, the ZIP format has become arguably the most popular file compression method in the PC telecommunity, with ZIP files now far outnumbering ARC files. Compatible programs have appeared on other platforms as well, including the Apple Macintosh, Atari ST, and IBM MVS mainframes.

Version 2.0 of the PKWare software should be shipping by the time you read this. The new software contains a new algorithm called "deflating," which is not supported by older versions.

UNZIP-Only Programs

When I went prowling for, er, *ZIPpers* in the CompuServe libraries, I found several files, two of which were extract-only programs, but didn't find either to be sufficiently reliable.

I encountered CRC errors attempting to extract files from IBM and ST ZIP files. In one test, the extracted file matched the original file exactly, while for another file comparison failed. Moreover, neither program could recursively extract subdirectories—that is, they did not recreate subdirectories included in the ZIP file. Finally, neither program will be able to handle the new "deflate" algorithm in the new IBM software (PKWare Version 2.0). One program, however, has a lot to recommend it.

ZTZIP 2.0--A Complete Package

The ZIP2-O.TOS file (Library 4 of the CompuServe ATARIPRO forum) is a self-extracting ZIP file (place it on a disk, and run it). The file contains three programs (STZIP.PRG, ZIPJR.TTP, and ZIP2TOS.PRG) and documentation files in French, German, and English. The package is postcardware; that is, author Vincent Pomey solicits a "nice postcard" from his users.

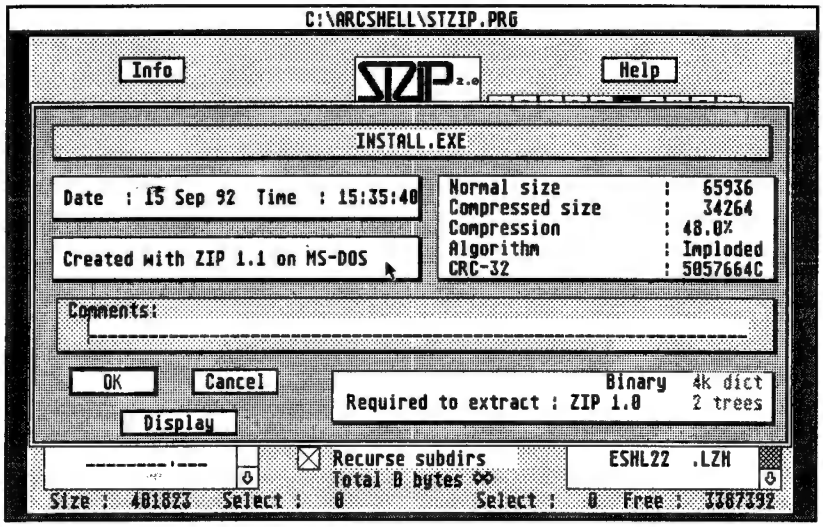
ZTZIP.PRG contains a full GEM interface, which works in both color and monochrome. I've had no difficulties with it, and it has worked fine on the ST and IBM ZIP files I've tried it with.

The program can be renamed with a TTP extension and run from a command line; I tried that once, to make sure it would work. I found the GEM interface much more convenient. The documentation file is short and covers the command line mode of execution; there is no documentation on the GEM mode as such, but you don't really need it.

When the program starts, the first thing you have to do is pick a ZIP file to work on, using the file selector. If you don't have a file, just select the folder in which you want to place your new ZIP file; the program will create a file named DEFAULT.ZIP in the chosen folder. It really does create this file, so you may have to remember to get rid of it later. Next, the main menu appears as shown above. (The screen shot shown is from a monochrome screen; the color screen looks slightly different, but contains the same information.

Taking the major features first, the large box on the left looks and behaves much like a GEM file selector window for the ZIP file you're examining. The window at the right displays the contents of the current disk folder, where extracted files are displayed, and from which you can select files to be compressed. Double-clicking on a file entry in either window will open a file dialog box, which shows additional information about the file, as follows.

The box illustrated is the one you'll see for a file selected from the left-hand (ZIP) window. The "Comments" line can



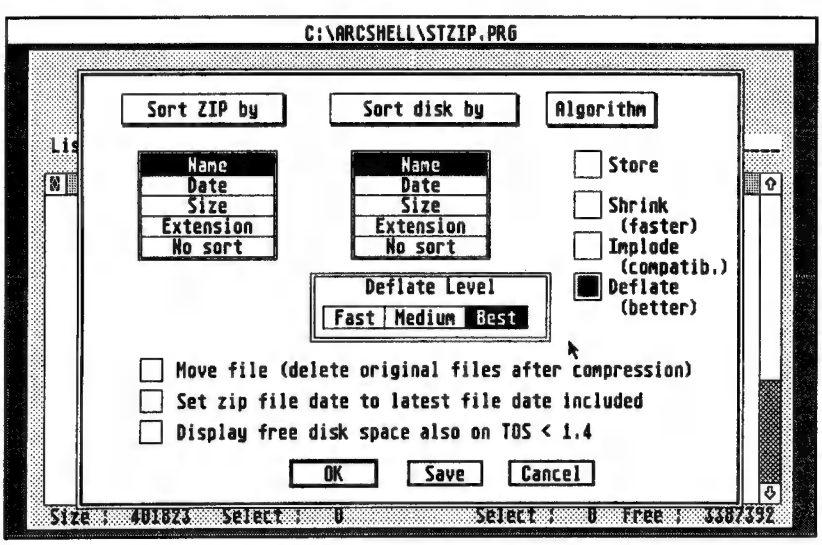
be used to add a comment concerning the file. Comments are recorded in the ZIP file when you quit the program or switch to another ZIP file. Setting comments is the only thing I ran into that caused an unexpected abort—I was not able to reproduce the condition, though.

Back to the main display, double-clicking on the file title bar in the ZIP window will allow you to enter a general comment for the whole ZIP file.

The buttons in the middle area are pretty self-explanatory, but a few of them are worth mentioning. The "Format" button brings up a format program having several options that are not self-explanatory; this subprogram should be documented.

"Createdir" only works in the file window; as expected, it creates a folder in the file window. You'll need the "Createdir" button since STZIP will not automatically create a subdirectory into which it extracts a ZIP file's contents. It will, however, create subdirectories as it extracts data from a ZIP file. "Add mode" controls the options governing when files will replace those already ZIPped. STZIP supports encryption with a user-supplied password. (I've never found this a particularly attractive facility in any file compression system).

"Config" brings up the configuration box shown below. The ZIP sort options here don't seem to do anything. Sort options for the disk window also don't seem to work very well, especially the file extension sort.



You'll notice four choices of algorithm at the extreme right: *Store*, *Shrink*, *Implode*, and *Deflate*. *Deflate* is the new algorithm to be released in PKWare Version 2.0. Naturally, at this writing, I can't say with certainty that STZIP 2.0 is **really** compatible with the new IBM algorithm. I'll let you know as soon as I can get my hands on the latter.

Using the Program

Using this program is completely natural. If you have an existing ZIP file, as shown in the main menu display, and youwant to inspect the contents of a subdirectory, just double-click on it. To extract a single file, just click on it once to highlight it, and click on the "Extract" button.

One of this program's nicest features is its "display" option. Suppose you'd like to read a document file without extracting it. Just double-click on the file name in the window, then click on "display" in the dialog box that opens immediately. The contents of that file appears in a full-screen text window that scrolls in response to the up and down arrows on your keyboard, or the slider bars in the window—this is a fully functional text display window, and it's FAST! Exit from the window by pressing the "Escape" key.

Gotchas!

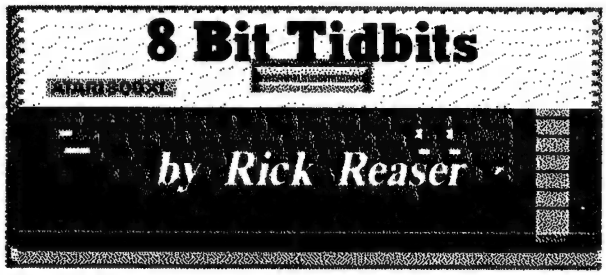
There don't seem to be very many "gotchas" in this program. One CompuServe user reported that he couldn't get it to work at all; I had no trouble with my Mega ST 2 with 4MB RAM, TOS 1.4, and my usual assortment of DAs and AUTO programs.

Another user reported a bug involving the selected files display at the bottom of the main screen. If you have one or more files selected (highlighted) in either file window, the number of files is displayed for each window. The number is actually a button; clicking on it will deselect all the files in that window. If, however, the number is zero, you will bomb out to the desktop.

A third user reported faulty screen redraws involving dialog boxes, but I didn't see this phenomenon.

On the slightly surprising side, I noticed that some files will ZIP to a smaller size than with LHARC. At the other extreme, some will require more space than the original file. On the whole, a pretty satisfactory program. Recommended.

See you next year!



People Helping People

Saved Again!

I was getting pretty worried about mid-month, when I didn't have much in the way of articles to publish. But, you guys saved me. That's what Atari 8-bit computers are all about these days—people helping others. Whether it's on one of the telecommunications services, at a user group meeting, or a disk mailed to your trusty CN 8-bit editor, it's people that really keep our machines alive. We may not have *ANALOG Computing*, *Antic* or even Atari Corporation anymore, but we still have each other.

As usual, I'm still looking for a few (or even more) good writers and articles for CN. To get potential writers out of the closet, our kind and generous publisher, Joe Waters has approved the following plan: If you submit an article that gets published, your subscription will be extended for two months. If your aren't a subscriber, you get the next two issues free. (Hopefully, non-subscribers will then find that they can't live without CN, and buy a subscription.)

Please contact me if you are interested. I will send you writer's guidelines that explain format requirements and provide helpful hints for "would be" CN authors. Without your contributions, we won't have the kind of coverage you've come to expect.

Elsewhere in This Issue

All of our authors this month have three things in common. First, they love Atari 8-bit computers. Second, they've never written for *Current Notes* before. Finally, they represent the true spirit of Atari 8-bits, people helping people.

Charlie Koontz joins us with an excellent review of Computer Software Services' Floppy Board. Charlie is a retired Air Force officer, Vietnam veteran, and Atari enthusiast. You've probably heard of Charlie before if you're on CompuServe. He's active there and that's where we met. Charlie spent his Air Force career in ground radar, electronic systems, tactical command and control and nuclear detonation detection. (Don't ask.) Since retirement, he has enjoyed the contact with many in the Atari 8-bit computer community while immersing himself shamelessly in the computer hobby. Let's hope Charlie stays immersed and shares his experiences in future CN articles.

I met Jim Harris through a lead from Alan Sharkis, who frequents FidoNet. Jim and Alan belong to the same user group, Long Island Atari Users Group (LIAUG). I was trying to find out more about something called the International Atari Network (IAN) to add to my column. With practically no encouragement, Jim put together a whole article about IAN, which appears in this month's issue. Jim is an electronics technician and part-time programmer. He owns both 8 and 16-bit Atari's, and take note of this, he is at peace with himself. Jim runs The New Nest BBS for his user group, on his 8-bit. Jim enjoys cursing crashed hard drives, sleeping (when he has the chance), and fixing other peoples' crashed equipment. You'll enjoy his article.

Decker McAllister provides us with a fascinating introduction to 8-bit model railroading. Decker is a fascinating individual. He's an avid sailor, professional engineer, as well as a top notch model railroader. He's one of those guys who's done and studied just about everything, from econometrics to welding, his current course of study. He is one of the most active people I've ever met. If you are interested in articles about some of the specific model railroading hardware or software projects mentioned in his article, please let me know and we'll see what we can do.

Errata

There were some glitches in my October CN column. Table 1 one was for FidoNet, not Internet BBSs. The "at" signs (@) got lost in the translation several places.

Table 1. New FidoNet BBSs

Zone:Net/Node	BBS Name	City, State
SysOp Name	Phone Number	Comments
1:208/400	Manteca Hub	Ripon CA
Ken Schatzle	1-209-239-5133	9600
1:233/69	Xanadu	Urbana IL
Scott Coleman	1-217-384-2127	9600
1:3807/10	The STarship BBS	Fort Polk LA
Rich Tietjens	1-318-474-9432	9600*
1:396/76	The Leather Connection	New Orleans LA
Robert Goslin	1-504-947-2627	2400
1:124/1002	Texas Trails	Dallas TX
Randy Gorman	1-214-698-7040	9600

* New phone number and node number.

Photo Challenge

Starting with the June 1991 issue, CN has boasted a color cover. Some of them have been pretty cute, but none of these new covers has had an 8-bit theme. Why? Because nobody has submitted any clever color photographs that involved our favorite Atari Classic machines. Here's a sample idea for a photo: grandpa 800 sitting on a chair with his monitor, "reading" little ST, TT and Falcon, who are half tucked in bed, a bedtime story. Serious photos are also acceptable. The possi-

bilities are endless. So here's the challenge, take a unique, high quality, color photograph of your favorite 6502-based computer and send it to us. If you make the cover, you'll be famous (at least to CN subscribers).

FidoNet

Several new nodes have been added to the FidoNet 8-bit echo. They are shown in the accompanying table.

My local SysOp sent me a little tidbit that shows how to send messages between FidoNet and the Internet, GEnie or CompuServe. First you need to find a gracious FidoNet BBS SysOp that will allow you to send NetMail between FidoNet nodes. Then you need to find a FidoNet BBS that also serves as "UUCP" gateway into Internet. Finally, of course, you need to have the other person's address.

To send a message to someone on Internet, you would address your message like this:

```
From: Rick Reaser
To:   uucp On: 1:363/42
Subj: CN Internet Article
To:   omf@tiamat.hacks.arizona.edu ◄—Internet address
                                   must be on first line.
Hi Oscar, How's your article coming? ◄—Body of the mes-
                                   sage follows
```

To send a message to someone with a GEnie address, it would look like this:

```
From: Rick Reaser
To:   uucp On: 1:363/42
Subj: Whatever...
To:   r.reaserjr1@genie.geis.com ◄—First line of mes-
                                   sage
Hi me...                         ◄—Body of message
```

Basically, you just tack the "@genie.geis.com" after the person's normal GEnie address. Simple enough.

To send a message to someone with a CompuServe address, it would look like this:

```
From: Rick Reaser
To:   uucp On: 1:363/42
Subj: Whatever...
To:   72130.2073@compuserve.com ◄—First line of mes-
                                   sage
Hi me...                        ◄—Body of message
```

A person's Compuserve address would normally have a comma separating the two numbers (e.g., 72130,2073), but you change the comma to a period when sending via the Internet.

If you want someone to send you mail to your Fidonet address via Internet, then have them do so by sending it to an address with the following convention (using myself as example, receiving mail on 1:375/1):

rick.reaser@f1.n375.z1.fidonet.org

Activity in the echo is still brisk and exciting. If you are looking for FidoNet BBSs in your area, I can get that information to you. Be sure to include your area code with your request. If your local SysOp doesn't carry the 8-bit echo, ask about it.

Antic, ANALOG, and Compute! Programs

While working with one of our authors for a future CN issue, a question arose. It is permissable to upload old programs from *Antic*, *ANALOG Computing* and *Compute!* magazines onto GEnie and CompuServe? After a little research, the answer proved to be, "Yes!" for *Antic* and *ANALOG Computing*, but not for *Compute!* After a few phone calls, *Compute!* agreed to let their programs appear in the on-line libraries as well.

Toad Computers Spring & Summer 1992 Catalog

I finally received my own personal copy of the latest Toad Catalog. True to Dave Troy's form, it was an excellent product in and of itself. The catalog is full of wit, wisdom and recipes, as was their last effort. It even has a color cover (like CN). To top it off, my name was actually in it, much to my surprise. (I'm going to xerox that page and mail it to my mom. It was the ad for CN.)

Clearly, ST products dominate the 56 page catalog. There are generic computer items, like modems and printers that interest all computer owners. Pages 33 and 34 are devoted to 8-bit items. Apparently, the Toad Meisters are doing a bang up 8-bit business. Most of the items are used. Toad buys old books, hardware and software then recycles (resells) them. They are working towards an on-line inventory system, since their stock rolls over so much. If you're interested in selling some of your old items, call Toad. If you want a copy of the catalog, send a card to their new address below. If you are looking for something in particular, send a self-addressed stamped envelope with the request to:

Toad Computers
570F Governor Ritchie Highway
Severna Park, MD 21146-3818
(800) 448-TOAD (orders); (410) 544-6943 (info)
(410) 544-1329 (fax); GEnie: TOAD-SERV.

American Techna-Vision October 1992 Catalog

I also just received the brand new American Techna-Vision Catalog and performed a detailed analysis of it. This new catalog is 32 pages, compared to 24 pages in the previous catalog. The old catalog usually came with a couple of xeroxed supplement pages. These supplements have been incorporated into the new catalog along with at least 40 other new titles. Some of the pages are identical to those in the old catalog, but the page order has been radically shuffled. About 10 titles from the old catalog have been discontinued. Hardware parts and 1050 Disk Drive repairs are still offered. The most amazing thing I discovered was that there wasn't a single price increase. That's incredible! This is a "must have" catalog. For further information contact:

American Techna-Vision
15338 Inverness Street
San Leandro, CA 94579-2016
(800) 551-9995
(510) 352-3787 (inside CA or Canada)

What's New on GEnie?

GEnie is continuing beta test of their new Internet Mail Gateway. In an adept marketing move, GEnie has drastically lowered the pricing for Internet access starting November 1, 1992. The one-time $9.95 registration fee has been slashed to $2.00. It appears that the $9.95 monthly access fee has been totally dropped as well. The message rate has been changed to 30 cents for each 5,000 bytes or portion thereof for incoming or outgoing messages. Previously, the rate was 40 cents per message for sending Internet messages. This spells GOOD DEAL for us. I even signed up myself and sent my first message. Internet mail opens whole new vistas for Atari 8-bitters.

On a trial basis, GEnie is now also offering anonymous File Transfer Protocol (FTP) of programs available on the Internet. That means that you can now request programs from the Atari archive at the University of Michigan through GEnie. The way you do this is to post a note in the Unix bulletin board (page 207) category 1, topic 8 and GEnie will go get it and make it available to you for downloading in library #42 of the Unix RoundTable. If you aren't sure where exactly it is or want to know "everything" that's in a specific place, you can scan library #41 for FTP file listings. That's where GEnie will put by-request directories of files. The files placed in library #42 will be removed after a short period of time to the appropriate RoundTables on GEnie.

GEnie is updating the Usenet map files for the United States and will be adding Canada shortly. If you are looking for your own Usenet "feed," then the map files are the place to start. What this means is that it is now possible to be in the Atari8 newsgroup on GEnie. Amazing!!! I'll try to have this checked out for next month's column.

Most of the activity in the GEnie library during the month of October was sale lists of hardware and software. There were a number of great buys. ANIMATSURI also continues to upload excellent color graphic pictures.

Atari Classics (AC) 8-Bit Magazine Update

After several technical difficulties, Ben Poehland completed printing the mailing labels for the AC Premier Issue the last week of October. By the time you read this, those who are on the mailing list should have the issue in their hands barring unforeseen catastrophes. The mass mailing of the free AC Premier Issue will go out to just under 800 people.

Ben still has several hundred issues not spoken for. They are sitting in his living room. He's dying to give them away! Send your postal mailing address to:

Atari Classics
179 Sproul Road/Rt. 352
Frazer, PA 19355

Ben will continue to distribute free copies of the Premier Issue until the mailout of Issue #2 in January 1993 or until they run out, whichever happens first. For everyone who's been dying to send in money in return for a subscription, AC is finally accepting money as well.

Z*Magazine Goes into Hibernation

As promised last month, I found out what happened to Z*Magazine. Stan Lowell, one of Z*Mag's pioneers with Ron Kovacs, passed away at a very young age in early September 1992. Stan was the real impetus behind Z*Mag the past few years. Issue 211 will be the last Z*Magazine published unless someone volunteers to take Stan's place. Ron Kovacs' attentions are primarily directed towards *Atari Explorer Online*. He also plans to resurrect *Z*Net*, Z*Mag's ST alter ego. If you are interested in taking over publication of Z*Mag, please contact Ron Kovacs on GEnie: Z-NET or on the Z-NET BBS (908) 968-8184. Ron is willing to get a new editor started and will assist in production, but he needs someone, like Stan, to run the effort.

Movie Reviews

Movie Reviews?!? Yes, you may not have noticed this but one of the stars of the recent movie, "Sneakers" was an Atari 810 acoustic coupled modem. This is a 1992 movie, folks. It stars Robert Redford, Danny Glover, Dan Akroyd and James Earl Jones—not bad company for a primitive 8-bit product. The story line revolves around a group of people who use computers and other high and low tech gadgets to break into things—sort of like professional hackers. If you are a border-line computertechno-geek, like me, you'll love this flick. Like all good movies, it will probably be out on video by the time you read this. Be sure to check it out.

Of course, I told all my friends on FidoNet to go see "Sneakers." Someone then asked me if I had seen "Cloak & Dagger" during the resultant message threads. I hadn't. I checked it out from my local video rental shop. "Cloak and Dagger" was a 1984 release starring Dabney Coleman and Henry Thomas, the boy from E.T. The plot is about the boy's relationship with his father, after his mother dies. The boy loves fantasy role playing games and Atari computer games, specifically one called "Cloak & Dagger."

Though there are a few violent scenes, this PG-rated movie has a good story line for children. The flick is also loaded with Atari 8-bit and video game equipment. An Atari 800 plays a central role in the movie as well as a 2600 VCS. One of the settings is actually an honest-to-gosh Atari retail store, loaded with product. (As you know, the Department of the Interior has placed Atari Dealerships on the endangered species list, so this movie may be all that's left of this once thriving enterprise in the not-too-distant future.) Of course, our beloved Atari Corporation never finished or marketed the 2600 or 8-bit "Cloak & Dagger" game to capitalize on the movie. They did create an arcade version that some on FidoNet actually played. The arcade game was very similar to the version shown in the movie. It's worth the $2.00 video rental to see the equipment and reminisce.

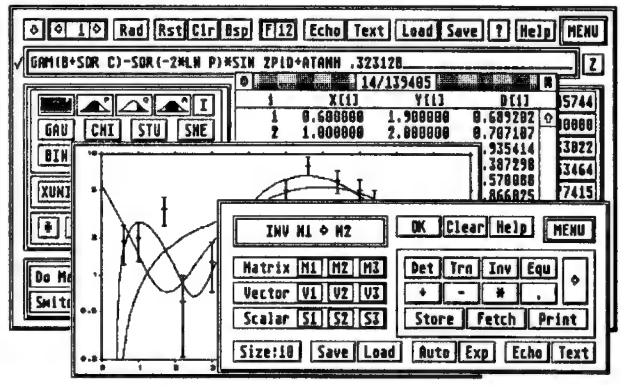
WAACE AtariFest - 8-bit Point of View

There was a small showing of 8-bitters at the 10-11 Oct WAACE AtariFest, in Reston, VA. Ben Poehland from *Atari Classics* was there in the *Atari Interface Magazine* (AIM) booth. Joe and Joyce Waters were there with *Current Notes*. Dave Troy had a few 8-bit items for sale in the Toad Computers booth. Bob Puff of Computer Software Services had a booth. Most of the 8-bit activity was in the Swap Meet Room. The Swap Meet Room was about 50/50 8-bit and ST this year.

That's all for this month. Be sure to write or E-mail your requests, questions or complaints to me as shown by the table of contents near the front of the magazine.

El Cal

The Math Machine.

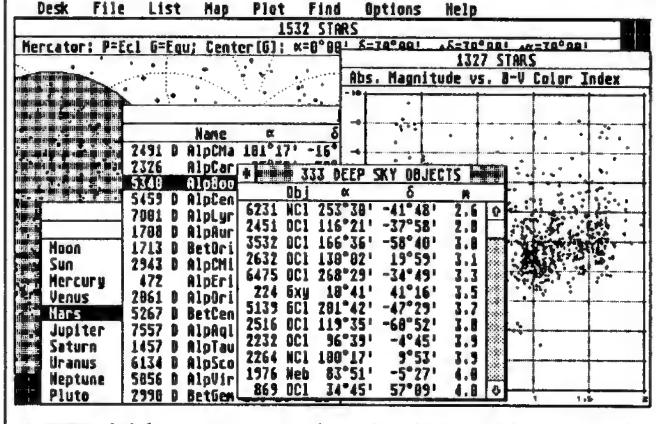


From senior high to Fermilab - if you do any engineering or scientific calculations, then you need this program.

* Numerical integration, differentiation * Systems of linear, non-linear and differential equations * Vector and matrix operations * Function optimization * Mean, standard deviation * Function and data plots * Linear regression, correlation * Polynomial least squares * Multi-parameter point and histogram fits * Unit conversion * Roots of square, cubic, quartic equations

⇨ The new Version 2.2 has upgraded graphic capabilities. **$63.**

Star Base



* 9000+ brightest stars * 300 deep sky objects * Planets, comets, Sun and Moon * Various projections, reference frames and map ranges * Mapping, browsing and database manipulation * Object search, selection and identification * Hertzsprung-Russel diagram

⇨ The new Version 1.2 adds planet path plotting and more. **$43.**

Min Cal

El Cal's little brother: a scientific calculator accessory, with the same expression parser and the most powerful function set on the market (95 total). **$15.**

Big Sky

An extra data base with 40,000+ stars and 4,000 deep sky objects. For **Star Base 1.1** or higher. Hard drive recommended. **$22.**

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The Floppy Board

Connecting *Any* Disk Drive to Your 8-bit

by Charlie Koontz

(GEnie: CHARLEKOONTZ / CIS: 74206,3444)

Floppy board? Is that some kind of rubber circuit I can press into any space in my computer? Nah. The Floppy Board, from always innovative Computer Software Services, is just the best accessory introduced this year for the Atari 8-bit computers. When added to your Black Box, also from Computer Software Services, the Floppy Board gives you the ability to run generic floppy drives on your XL/XE computer, at parallel bus speed. Also included as part of the Floppy Board's firmware is the *Taskmaster* sector editor and a version of the *Super Archiver.*

What does this mean? The Floppy Board (let's just call it "FB") allows you to run those high density floppy drives previously available only to 16 and 32 bit users. It's basically a controller board designed to let you attach virtually any bare floppy drive an IBM PC or Atari ST can use. Which drives? Just about any 3 1/2-inch or 5 1/4-inch drive you can name. Even those old 8-inch drives can be used. See Table 1 for specifics.

Table 1. Floppy Board Drive Types

Size	Density	Sides	Capacity	Sectors	Tracks/side
5.25"	single	1	90K	720	40
5.25"	double	1	180K	720	40
5.25"	double	2	360K	1440	40
5.25"	quad[1]	2	720K	2880	80
5.25"	high	2	1200K	4640	80
3.5"	double[2]	1	360K	1440	80
3.5"	double	2	720K	2880	80
3.5"	high	2	1440K	5760	80
8.0"	high[1]	2	1000K	4004	77

Notes:

[1] - old drive type, seldom seen these days.

[2] - featured on early Atari ST computers.

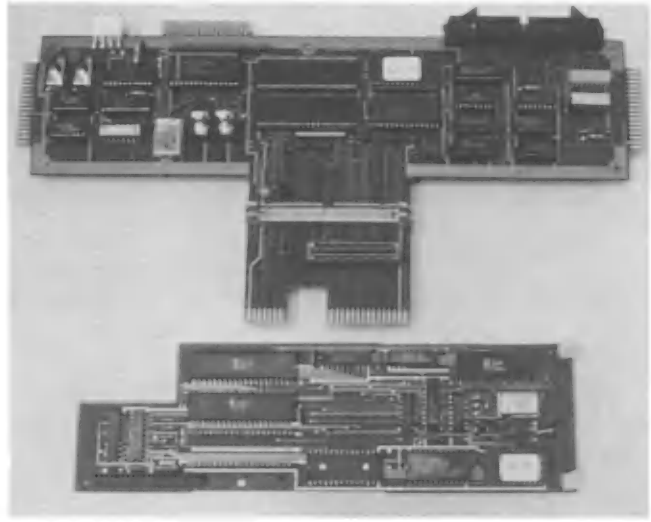
Since the FB is a parallel bus device, the drives read and write at blinding speed. While they won't be quite as fast as a hard disk drive, it's the next best thing. Up to four drives can be run from the FB. This is in addition to any floppy drives attached to your computer's serial I/O port, so you could be running as many as eight floppy drives from your Atari, four from the serial port and four from the parallel port via the FB.

Installation

The FB attaches directly to the Black Box. In fact, the FB circuit board is installed upside down on top of the Black Box circuit board, covering about two-thirds of the right-hand side of the Black Box. To do this, you must first remove the original Black Box 28-pin ROM chip and replace it with the new ROM accompanying the FB; the new ROM has two wires extending from it that must be soldered into place on the Black Box circuit board. Next, remove the 40-pin chip just to the left of the Black Box ROM you just replaced. The FB plugs, component side down, into the Black Box in two places: that empty 40-pin chip socket and the 20-pin, single row connector above the toggle switches. A pair of snap supports secure the right side of the FB to the Black Box. The optional plastic case still fits over the FB-Black Box combination; even if, like me, you find it necessary to use a couple of long cable ties to make sure the electrical connections between the two boards don't pull apart slightly. Installation is actually easier than it sounds but some soldering is required.

Initial Setup

Here's the easy part. After installing the FB, set the Black Box DIP switch #2 to OFF. This contradicts the instructions in the Black Box manual but is re-



quired by the FB firmware. Evidently, the assumption is that the switch function is not necessary since you will always have a parallel bus drive, either hard or floppy, running from the FB-Black Box combination.

Now you need to connect those generic floppy drives. The Floppy Board output is a 34-connection card edge, the same as the inputs to generic 5 1/4 inch drives so stock up on 34-connection card edge connectors. The small 3 1/2 inch drives require a 34-pin IDC female connector with two rows of 17 pins each. Press the connectors onto a 34-conductor ribbon cable at the appropriate intervals and you're all set. Be sure to line up pin 1 as instructed in the Floppy Board manual. Be sure to check that each of those device ID shunts on your generic drives is set to a different value between 1 and 4 (or 0 - 3 for some drives).

Finally, make sure all those generic drives are properly fed. Each drive requires +5v dc through a 4-pin white plastic-shroud connector. Unfortunately, 5 1/4 inch drives and 3 1/2 inch drives use slightly different connectors; the 3 1/2 inch drive connector is smaller. There are lots of vendors selling drive enclosures with power supplies and power plug adapters to fill your needs.

For Percoms Only

For those who are bypassing a Percom controller card to use the bare drive mechanisms included in Percom's line of Atari drives, you'll find that the "system" or master drive doesn't let you set a device ID; it's assumed to always be D1:. Sorry, Percom didn't provide any alternatives. You'll also find you can't completely dispense with the Percom controller card; part of the power supply circuitry that provides the regulated +5vdc to the drive mechanism is located on the controller board. Of course, one can always install a different power supply but that's too ambitious for this article. All you can do is run that ribbon cable from the FB to the 34-conductor card edge of the Percom drive mechanism, which is hidden inside the drivecase. The card edge you see exposed on the rear of the Percom case is for connecting add-on or "slave" drives to the Percom controller card; ignore it.

Configuration Menu

Once all those drives are hooked up you're ready to roll, right? Well, not quite. You've got to configure the FB-Black Box so it knows what you've connected to it. When you enter the Black Box Drive Configuration Menu, you'll see a new option F at the bottom of the screen for the Floppy Board Configuration. Once you're in this menu, you can step through the drive types presented in Table 1 for each of the (up to) four floppy drives on the parallel bus. You must also set the step rate and double-side mode (for double-sided drives). It sounds complicated but the Floppy Board manual makes it easy. The final manual should be even better than the preliminary manual shipped with the early Floppy Boards.

What is the double-side mode? Well, it appears there was never any real standard for the configuration of double sided drives for the Atari. The FB allows setting each parallel floppy drive to one of the following double-side modes: ATR-8000, Percom, or XF-551. The main reason to choose one over the other is to maintain compatibility with one or more drive types. If you have some Percom or ATR-8000 double-sided disks in your library, you'll want to keep at least one parallel floppy drive set to that mode. Incidentally, when Percom drives are used with the FB by bypassing the Percom controller, they are freed from operating only in the Percom mode; they can be set to any of the three double-side modes like any other generic drive.

When you return to the main Black Box Drive Configuration Menu, you can set each parallel floppy drive to respond as drive 1 - 8, just like you previously configured your hard drive partitions and serial floppy drives. A column headed "US" shows whether the drive is set to operate in ultraspeed. If ultraspeed is OFF, your parallel drives will read and write at about the same speed as a stock Atari 1050. Use this setting if you need to boot commercial software that doesn't cooperate with ultraspeed.

Which DOS?

It should be obvious you'll need a DOS that supports the features your parallel floppy drives offer. If you've already been using the Black Box with a hard drive you must be using either *MYDOS* or *SpartaDOS* since no other DOS for the Atari XE/XL supports hard drives. Both are extremely well suited to the FB. If you haven't acquired a hard drive, the above DOSes are still the best choice, although *TOPDOS 1.5*, *MachDOS 3.7* and *OSS DOSXL* can be used since they support double-sided drives. A caution: these lesser DOSes may have difficulty coping with some of the higher-capacity floppy drives the FB allows you to use.

How Fast?

"Get to the good stuff," you say. Okay, here it is. The parallel floppy drives are fast, amazingly fast, sometimes. For maximum speed on disk reads and writes, two conditions must be fulfilled:

(1) the drive must be set to ultraspeed and

(2) the disks must be initialized in the ultraspeed (fast) format.

Thoughtfully, CSS has included a floppy fast formatter as another addition to the configuration menus in the FB-Black Box firmware. Table 2 shows the read and write performance you can expect from the paral-

lel floppy drives when copying true double density disks. In the chart, parallel floppies are called "PBI" floppies, short for "parallel bus interface." I've included figures for a few other drives to compare performance.

Table 2. Floppy Drive Whole Disk SSDD Read/Write Comparison

Drive	Read Time	Write Time
Indus GT (slow mode)	3' 12"	3' 46"
HAPPY 1050	1' 05"	1' 36"
Super Archiver 1050	1' 05"	1' 03"
PBI floppy (not fast-format)	2' 04"	2' 04"
PBI floppy (fast format)	0' 24"	0' 24"

The tests used the copy program included with the *Taskmaster* built-in sector editor. This copy program does not write empty sectors so I set up the test disk with data in all 720 sectors to avoid skipping sectors during disk writes. A word about the selection of drives: I used what I have. The Indus GT was acquired without information on how to access the synchromesh" speed and no Turbospeed" board. While a number of Atari 1050 drives reside with the author, all have been modified to some extent; there's not a stock 1050 in the house.

So why didn't I use one of the fine freeware sector copiers that are available? Most of them, like *COPYMATE 4.3*, *COPYMATE 44*, and *MYCOPYR! 2.1*, do not recognize floppy drives operating on the parallel bus. CSS is hard at work producing an ultraspeed disk copier to correct this situation. The new copier and an ST/IBM disk reader will be sent to FB owners as soon as they are ready.

Compatibility

Freeware disk copiers aren't the only compatibility problem with PBI floppy drives. There are a few commercial disks out there, usually heavily protected, that either won't completely load or run from a PBI floppy drive. Quickly running through my library, I found a couple of examples: the EPYX-Lucasfilm *Rescue on Fractalus* and CSS's own *Ultra Menu*. Several commercial disks require ultraspeed be disengaged. Ultraspeed can be turned OFF in two ways: from the Black Box Drive Configuration Menu, or boot the disk while pressing the SELECT and OPTION keys. You'll need to disengage ultraspeed to load and run *M.U.L.E.*, *Run for the Money*, and *Seven Cities of Gold*, for example. Finally, disks which require loading of a translator" program, which installs a facsimile of the old 800/400 operating system, will not load from a PBI floppy drive. Why? The old operating system did not have the code to support parallel bus accessories; the 800/400 uses those code locations for other purposes. The solution to these few compatibility problems is simple. Keep at least one floppy drive operating off your serial port to load those "problem" disks.

More to Come

The ads say the Floppy Board has a version of the *Super Archiver* built in. How does it operate? For the answer, we'll have to wait for the final version of the Floppy Board manual. Only the preliminary manual is available as this goes to press and it is silent on the subject. I can say it doesn't appear the "built-in" *Super Archiver* firmware is enough, by itself, to do any of the tasks associated with the CSS *Super Archiver 1050*. When a *Super Archiver 1050* and its software are operated with PBI drives and the FB, however, the PBI drives can perform most of the *Super Archiver* copy functions. More sophisticated features like creating phantom sectors are beyond the ability of "Super Archiver" PBI drives. Interestingly, the PBI drives also seem to function as accessory HAPPY Archivers when operating a HAPPY 1050 and *HAPPY Archiver* software in conjunction with the FB. Bob Puff, President of CSS, has promised the final manual will feature a full explanation of the Floppy Board's *Super Archiver* capabilities and how to use them.

Bottom Line

The Floppy Board is an excellent accessory for the Black Box, especially for those who want to operate high speed, high capacity floppy drives with the Atari 8 bit computers. Its speed really shines when backing up large hard drive partitions onto floppy disks. Operators of small bulletin boards will find it the simplest way, short of acquiring a hard disk drive, to increase the capacity and speed of their boards. The few compatibility problems with commercial software are easily countered by retaining a serial port drive in one's computer system. While the preliminary manual is brief, it is complete and easily understandable. In case of difficulty, the pleasant staff of CSS are always ready to help.

The Floppy Board is available for $149.95 plus $8 shipping and handling from: Computer Software Services (CSS), PO Box 17660, Rochester, New York 14617. Orders may be placed by phone (716) 429-5639, FAX (716) 247-7158, and the CSS BBS (716) 247-7157.

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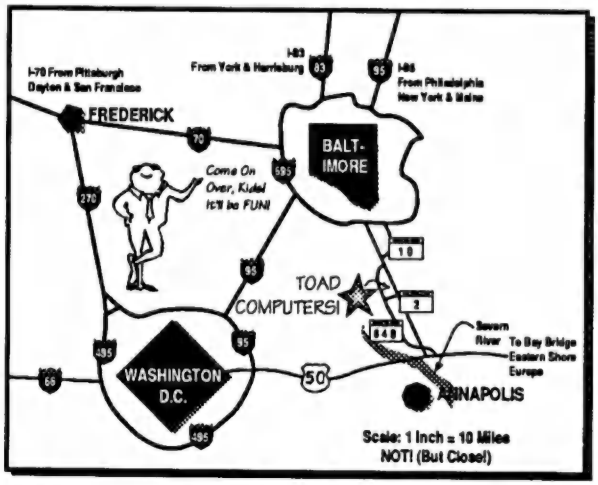

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We were so overwhelmed by the terrific volume of business that Jennifer, Ray, and I realized that to continue to accept orders at such a rate, we would need to grow and adapt as well. After much searching, we moved into our new location in June 1992. And we published another catalog.

We not only took on (and readily filled) a space four times larger than our old store, but we turned our old store into Toad Music, a retail CD store that also sells and supports Atari MIDI hardware and software.

Settling into our new location has been fun, and has enabled us to host such events as our Grand Opening Sale and our "Fest before the Fest." We also now have classroom space. Our first class, "Introductory Desktop Publishing" has been a lot of fun. We have a fifty-foot long demonstration computer counter, shelves fully stocked with software, and more business than ever. We are proud to call ourselves the nation's only "Atari Superstore." Come say, "Hi!"

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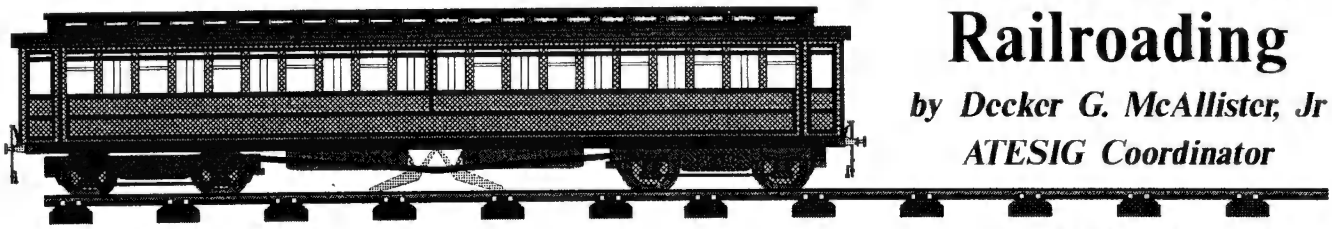
8-Bit Model Railroading

by Decker G. McAllister, Jr
ATESIG Coordinator



A Model Railroading Overview

Since most of the readers are not Model Railroaders (MRRs), I'll briefly cover the hobby before delving into computer applications. Keep in mind that any computer may, and has been, used in MR applications. At the present time there are two types of applications. The first type covers the paperwork involved in operating a model railroad. The second type involves direct control of the layout (engine throttles, switches, signal systems, animation, etc.) We will go into these later—just keep them in mind.

Model railroading is a multifaceted, multidisciplinary hobby. Basically, the layout includes the benchwork that supports the track, scenery and structures. Rolling stock includes the cars and engine(s) that make up the trains that run on the tracks. The power and control system includes the power supply, layout wiring and engine(s) control system. There is no typical modeler. Each MRR does what he feels like doing at any particular time. Most will buy prefabricated "flex" track, turnouts (track switches), and rolling stock. Some will scratch-build everything.

The Layout

The layout comprises the benchwork, trackwork, wiring and scenery. The benchwork is usually constructed as a simple grid out of 1 X 4 lumber. The subroadbed is usually a sandwich of 1/2" plywood and 1/2" Homasote. The latter is a pressed paper product that deadens sound. The subroadbed is cut to follow the track, and is supported by risers to adjust elevation.

Once the subroadbed is installed, track can be laid. The electrical power and control wiring and control panel are usually installed after the track is laid. The idea is to get operating as soon as possible. A small layout can be operational in one day. In the case of larger layouts it is generally best to get some main line and a yard built so that operations can commence ASAP. Finally, scenery and structures may be added. Some MRRs never add the scenic touches to their layouts. It all hinges on your interests and priorities. More gets done if a small group of friends work together.

Scale

Space available will usually dictate the choice of scale. N scale (160:1), which has cars that are roughly 3 1/2" long and can operate on 9" radius curves, is usually the choice of those who live in apartments and like to operate. I have a 2' x 4' N Scale layout that can operate 2 trains simultaneously and can be operated by 1 - 3 people. HO Scale (87:1) has cars about 6" long and an 18" minimum radius (24" or higher is preferred). Layouts are usually 4' x 8' or larger. O Scale (48:1) has cars about 12" long and takes a lot of space. Scratch-builders are attracted to O Scale, because the car size allows extensive super-detailing.

Traction (trolley cars) modeling requires the absolute minimum of space. Minimum radii of 4" in N and 8" in HO make it possible to have quite nice layouts on shelves. My computer demonstration layout (N Scale) is 24"x 30" piece of scrap 1/2" plywood. Remember, the computer doesn't care about the size or scale of the layout.

Electrical

For operation of more than one train, and for trouble shooting, the "main line" is usually broken into six or more electrically isolated blocks. For a single track "main" there should be at least one passing siding for each train operating simultaneously. A multi pole selector switch is used for each such train. As you can see, the wiring and switch costs can escalate rapidly as the size of the layout and number of trains is increased. Switch flipping can distract the operator from the enjoyment of operating the trains. Eureka! How about a computer control applied to block power routing? It has been done. There is also a second type of computer control system. More on that later.

Operations

Railroad operations move passengers and freight. Passenger operations may consist of fast, through trains and the commuter, or locals. Similarly, there are fast express, and through freights; slow "drags" such as unit coal trains, and the local way freights. A mixed freight will usually include a passenger car and combine both functions on lightly travelled branch lines.

Most MRRs like to operate way freights. These drop off and pick up cars at various trackside industries. If you are operating by yourself, the computer can operate the other trains to a schedule while you operate the way freight. You don't have priority, so you have to keep out of the way of these higher class trains as you go about your business. How about that for some real life gaming? A few layouts are as sophisticated, if not more so, than the prototype. These are

true simulation models. Yes, you can have "corn-field" meets (head-on collisions).

Computer Applications

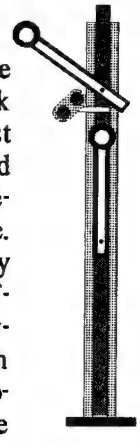
As I noted previously, most MRRs are attracted to way freight operation. Several methods have been used to "generate" commodity traffic between layout industries and beyond. The paperwork can be just as horrendous as that on the prototype. A number of computer programs have been developed to generate traffic, keep track of cars, print out waybills and switchlists, timetables and operate "fast clocks." These programs are easily modified/edited to fit your own interests and layout. The computer takes care of all the "bookkeeping." A "fast clock" keeps a MRR from doing his hobby all day. Simulating a freight run from Los Angeles to Santa Fe would take a whole day in "real time." The "fast clock" has a selectable scale factor between 4 and 12. A factor of 6 is most common. Thus 4 real hours is equivalent to a day. ATESIG has a current project to develop inexpensive remote readouts that can be located strategically around a layout, so that everyone is in sync.

Throttles

ATESIG developed a simple inexpensive game port interface and throttle. The heart is a Digital to Analog Converter (DAC08), op-amp, single transistor to control track power (2A at 12VDC). The current version uses 4 bits for speed control and the fifth bit for reversing (transistor and DPDT relay).

The current priority project is to develop a serial Pulse Width Modulated (PWM) control signal for operating many engines simultaneously. This system is radically different from the block power switching system mentioned earlier. In a serial PWM system, the control signal is fed into the track and picked up by a decoder/receiver/throttle located in the engine. Similar technology has been proven with engine control modules the size of a little finger. The ATESIG goal is to adapt this to the Atari 8-bit platform, develop our own engine control modules and drive the cost down and reliability up.

Route Control Systems



Route control systems include track side block signals, turnout control and yard track selection. Many proven digital circuits exist for block occupancy detectors, logic, and turnout positioning. This needs to be integrated with programming and an interface. Most layouts do not have signals, and many have manually operated turnouts. These often are based on low traffic short lines. However, if you want to try your hand at high density traffic, the computer is the most economical way to go. Diode matrices have been used for route and yard track selection.

Turntable Control

The computer and a stepper motor show great promise as a remote precision positioning system.

ATESIG Applications Development

The list of potential applications is only limited by your imagination. ATESIG members develop these applications either individually or cooperatively as members of a team. Most of the programming is in BASIC, but we need to build our Assembly Language capability. Some members are circuit designers and others have extensive experience in different phases of the hobby. The members form teams according to their interests and capability. We do have members who do not have Ataris (they own IBM clones), but they pitch right in because they believe in our goals. It's fun, but it's also work. Members also learn a lot and experience the satisfaction of pushing back the frontiers.

ATESIG—ATARI 8-bit Special Interest Group for Model Railroading

ATESIG's early history is a shaggy dog story. Briefly, two of us formed it in 1989 after I tried to locate programming for MRR applications, and found none. As the word circulated, others contacted me to let them know what I discovered—ZERO, NADA.

I did a literature search and built up a bibliography of programs and applications. Most programs were in BASIC and were written for other computers. So the first task was to improve and rewrite these in Atari BASIC.

Norman Beveridge specializes in MRR operations and was able to supply the latest versions of the advanced operating programs written for MS-DOS BASIC. The fact that he has operated with these is a big advantage.

As other inquiries came in, the Newsletter was started in order to keep everyone up to date on project status. Dues were set at $10.00/year to cover the cost of the newsletter. Since ATESIG is a cooperative effort, we try to establish fees to cover direct expenses.

The Future

Jim Cuppy is archiving the MS-DOS programs for us and has offered to set up and operate an ATESIG Bulletin Board System (BBS). We are currently soliciting advice and suggestions from members concerning the ATESIG BBS. So far everyone is in favor.

ATESIG Materials

ATESIG has just prepared a two page catalog of literature and disks. All Newsletters (back issues) are now on disk. The bibliography, program development index, circuit development index, etc., are also on disks. Text is in *Atariwriter Plus*, and single density Atari DOS 2.5 on disks. The programs are in Atari

BASIC. Through the courtesy of Bob Puff of Computer Software Services (CSS), *MyDOS 4.50* is also available on disk.

We are, currently, writing documentation for all programs, primarily for the benefit of beginners. Most programs are understandable to anyone with programming experience. Materials are only available to members.

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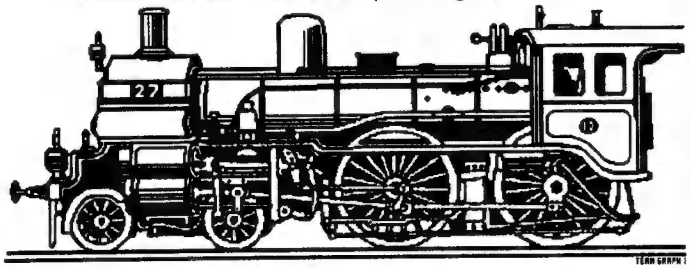

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The International Atari Network

Connecting Atari 8-bits Worldwide

by Jim Harris

Sunnyvale, CA: Atari Corporation announced that the Atari 8-bit is dead. The rest of the Atari 8-bit community responded with just one word . . . ***NOT!***

The 8-bit is alive and well, and living all over the world. In fact, with the help of some imaginative Atari Bulletin Board System (BBS) System Operators (SysOps), there is now an International Atari Network. This network links Atari users all over the United States, Canada, Germany, and the Netherlands. What happened, and how did this all come about? Therein lies an interesting tale . . .

Beginnings

We in the Long Island Atari Users Group (LIAUG), like to exchange newsletters with other Atari groups all over the country. One of our members, who also belonged to the famous German Atari Bite-Byters User Club, ABBUC, offered to contact them for us. Soon we began to exchange newsletters and software. Actually, it's been more like this: We send them our newsletters, and they send us their excellent disk based demos!

Sometime after that, both ABBUC and LIAUG bought copies of *BBS Express! Professional*, known as "Pro" for short. We began talking about forming an international network. It didn't happen all at once; networking was a new and scary thing. What if it didn't work? What if the phone call got stuck? We could get hammered with ten million dollars in international phone calls!! LIAUG and ABBUC started small, with one or two smaller local networks on each side of the ocean. We worked hard, got little sleep, made mistakes worthy of being bronzed as a record, and finally, got the hang of networking.

IAN Is Born!

Last winter, four SysOps, Wolfgang Berger from Germany, Bernard Kok from the Netherlands, Jon Mordosky from our sister group, the Lehigh Valley Atari Users Group (LVAUG) in Pennsylvania, and myself, began to get together on the telephone. We started discussions that led quickly to the formation of what is now the International Atari Network.

There were dozens of questions that needed to be answered. One problem is that some BBS's are not online 24 hours a day. We needed to work out a calling schedule that would be as inexpensive as possible, while being convenient as well. (Sysops aren't made of money!) We overcame one snag after another.

There were technical questions. Could the networking software handle a network architecture like the one we were describing? Bob Klaas, from K-Products, who owns *Pro*, and Steve Carden, *Pro's* programmer, got involved, and were incredibly helpful. They were able to help answer our questions, and more importantly, help us avoid some very expensive mistakes. Steve even wrote a special high-speed networking package for *Pro*, to help us keep our phone bills under control.

By April 1992, we had formed the nucleus of a network, and had decided on The International Atari Network or IAN as the network's name. To move messages as quickly and inexpensively as possible, we decided to make international calls once a week. Local loops within each country call each other as often as they like.

Network Structure

We started small. The ABBUC-Box BBS represented Germany. BECO-Tel represented the Netherlands. The Repair shop in Utah, and Inside The 8-Bit in Georgia represented K-products. ACUTE in Pennsylvania represented LVAUG. The New Nest BBS represented LIAUG. Structurally, we decided on two major loops: ABBUC, BECO TEL, and The Nest is the European loop. The Repair shop/Inside the 8-bit, ACUTE, and The Nest made up our local loop. Table 1 lists the current IAN BBSs in the US.

Table 1. IAN BBSs in the United States

BBS Name (SysOp)	Area Served	Phone
ACCUTE (Jon Mordosky)	White Hall, PA	215-261-0620
The New NEST (Jim Harris)	East Islip, NY	708-931-7966
The Repair Shop (Bob Klaas)	Salt Lake City, UT	801-967-8738
Inside the 8-bit (Steve Carden)	Augusta, GA	716-798-2474

Soon we were getting phone calls from people all across the United States and Canada! This was both good and bad news. We wanted the network to grow, but not so fast that it would collapse on itself from being overloaded. What to do?

(Continued on page 46.)

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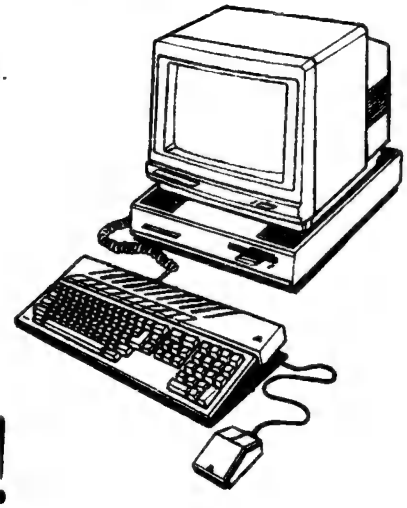

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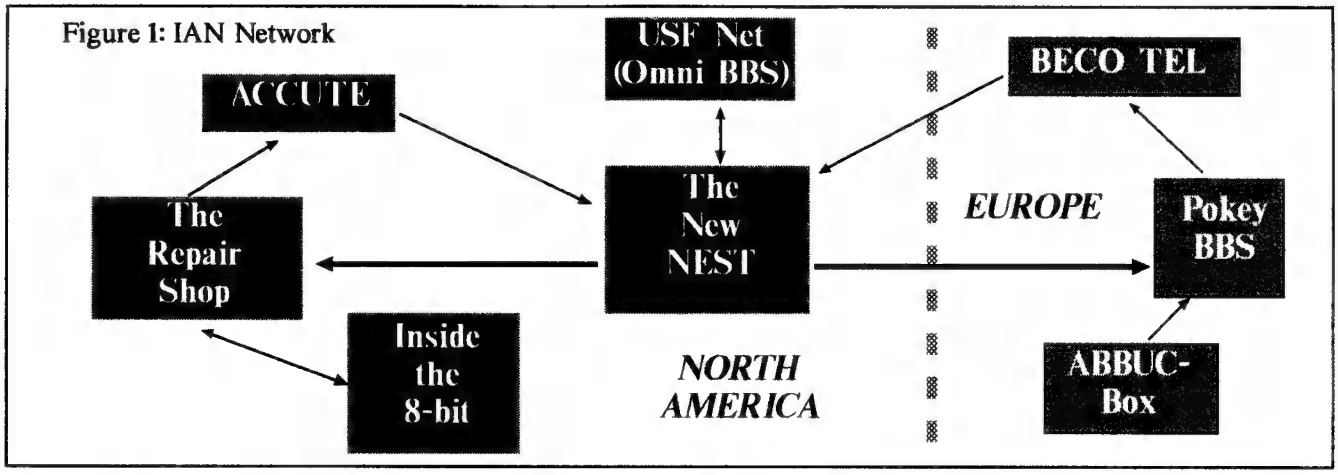

One of the earliest sysops to call me about the network was a gentleman from Canada, Dennis Trowsdale. He had an idea that was both practical and effective. He had already formed another network, the United SysOp's Federation Network (USF Net). USF Net included *Pro* BBS's from all over the United States and Canada. The solution? Easy! Dennis and I set up a link between our two networks, effectively tripling the size of the IAN's coverage in a single step. USF Net BBS's that carry the IAN message base and their phone numbers are listed in Table 2. [Editor's Note: Look for an article dedicated to USF Net in a future issue of CN.--RR.]

Table 2. USF Net BBBs that Carry the IAN Message Base

BBS Name (SysOp Handle)	Area Served	Phone
Omni BBS (The Lagger)	Dunnville, Ont.	416-774-1038
Watch City (The Infinite)	Elgin, IL	708-931-7966
Northern Limits BBS (Gazunni)	St. Catharines, Ont.	416-937-2786
The PotHole BBS (Boomer)	Sooke, B.C.	604-642-6795
System Reset! (Sysop*Willy)	Hamilton, Ont.	416-544-3387
Echo BBS (Sweet Marie)	Toronto, Ont.	416-491-7695
Carnival BBS (Sylvia)	Flint, MI	313-235-0158
Road To Damascus (Sysop*Tim)	Sacramento, CA	916-452-0518
The Key System (Sysop*Mike)	San Leandro, CA	510-352-5528
S.N.A.C.C. BBS (Pandemonium)	Las Vegas, NV	702-438-2208
The Knights of Camelot (SysOp *King Arthur*)	Rockford, IL	815-226-2388

Network Operations

IAN is essentially a message-based network. IAN BBS subscribers can read or enter messages on their local BBS. These messages are passed from the local BBS along a loop in one direction. Eventually, each BBS on the loop will get a copy of every message on the network. Since I am at the intersection of two loops, I pass messages along both of them. I pass messages to two BBSs, ABBUC-Box and The Repair Shop. ACCUTE and BECO TEL pass their messages to me. I also feed messages into and receive messages from the USF Net. Confused? A notional representation of the two major loops and the USF Net connection is depicted in Figure 1. Since each message contains information as to where it originated, the *Pro* software knows not to send a message that originated at the ABBUC-Box or ACUTE back to that BBS. The look and feel of IAN is similar to FidoNet echomail or any other message base on your local BBS. It may take a bit of time for each member BBS to get every message. A big difference is that sometimes you'll get a message typed in a foreign language!

The Future

The network is still growing. Pokey's BBS in the Netherlands has come on line. I am presently talking with BBS's in Connecticut, and Buffalo. N.Y. about joining the network.

The International Atari Network has become popular. Topics that have been discussed on the network have ranged from music, politics, and programming, to the new Falcon computer. On-line support for *Pro* SysOps (and prospective SysOps!), is a phone-call away. Are you interested in talking to Atari users all over the US, Canada, and Europe? Do you have a problem? A question? An idea? Something to say? Give us a call!

If you, or your users group, are interested in joining this network, give me a call on the New Nest BBS. The number is (516) 234-4943, 300-2400 baud, 24 hours a day.

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The Black Box

The Black Box is an add-on board for the Atari 600XL (upgraded), 800XL, and 130XE computers. The Black Box provides many unique and useful functions.

The RS-232 port emulates the Atari 850 interface very closely, but goes beyond by providing 19,200 baud capability. The Black Box is the only interface to support **hardware flow control**. This enables owners of high speed modems (4800 baud and up) to use their modem at full speed, and not worry about data loss due to a slow BBS or terminal program.

The parallel printer port interfaces to most all Centronics-type printers. You may assign the printer number and line feed options from within the Black Box's configuration menu. The Black Box allows **buffering** of your data, either using the extra 64K in your 130XE or the optional 64K RAM in the Black Box itself.

The hard disk port was the real reason for the design of the Black Box. You may connect most any hard disk controller that is SASI or SCSI compatible, or drives with embedded SCSI controllers. It is totally compatible with the current versions of MYDOS and SpartaDOS. The Black Box allows you to have up to 96 partitions with names, and set any partition as any drive (D1: through D9:), allowing you to place unprotected single density boot programs on your hard disk. You may also write protect ALL of your hard disks with the flip of a switch.

The Black Box also provides support for users who have previously used an ICD MIO to store data on a hard disk. You can have compatibility with an MIO formatted hard disk by simply setting a dip switch.

The 6502 monitor is very handy for machine language programmers. How often have you wondered where your program was, or what caused an apparent "lockup"? Entering the monitor will show you all the processor registers, and display the disassembly of the instruction it was about to execute when you pressed the button.

A printer dump of your current screen may be done at any time by pressing one of the buttons on the Black Box. A switch allows you to choose either text or graphics dump. (The graphics dump is only available for dot matrix printers capable of graphics.)

CSS sells a variety of accessories for your Black Box. The **Black Box Case** is a durable black plastic housing for your Black Box which sells for $39.95. **Modem and printer cables** are available for $9.95 each.

The Black Box sells for $199.95 plus $8 shipping and handling. The Black Box with a 64K printer spooler sells for $249.95 plus $8 shipping and handling.

The Floppy Board

Our latest and greatest product! The Floppy Board is an add-on expansion board for the Black Box interface. It allows the user to add up to 4 inexpensive, 'standard' floppy drive mechanisms. The Floppy Board supports almost all floppy drive configurations, including 360K, 720K, 1.2MB, and 1.44MB. Built-in the Floppy Board are the Black Box Enhancer and a version of our Super Archiver.

Disks formatted on the Floppy Board are accessed at parallel bus speeds, providing a **substantial** performance increase over the standard serial Atari floppy drive. In fact, Floppy Board drive access is much closer to hard drive speeds than to standard serial drives! Included with the Floppy Board is our **IBM/ST Disk Transfer Utility** program, which allows you to both read and write IBM or ST disks. This makes the Floppy Board the ideal method for porting files to and from your PC or ST!

Also available for your Floppy Board is our 1.44MB drive kit. The kit includes a high-quality 1.44MB drive mechanism, power supply, and floppy drive cable, and sells for only $79.95 plus $8 shipping and handling. The Floppy Board sells for $149.95 plus $5 shipping and handling. CSS also sells power supplies, floppy drive mechs, and custom floppy drive cables. Call for pricing.

Black Box/Floppy Board Special!

For a limited time, CSS is offering special pricing when you buy both the Black Box and Floppy Board. When purchased separately, you would spend $349.90 to get these items. Our special pricing lets you have these products for only $329, a savings of over $20!

8-bit Repairs

Having a problem with your 8-bit equipment? CSS repairs all kinds of Atari products, from computers to disk drives. Call us to arrange shipment of your items.

If you have two of the same product and both need repair, take advantage of our **two for one** repair deal. Send both items to us, and we will fix one of them **FREE** and keep the other one for parts. Again, call us to arrange shipment.

The Black Box Enhancer

A must for all Black Box owners! The Black Box Enhancer is a plug–in module for your Black Box, enhancing the printer functions and adding an instantly available, full featured **sector editor**!

The built-in **screen dump to printer function** will now render a hardcopy with a 16 shade grey scale representation of the colors. A special graphics printer handler is built-in, which allows any output directed to P9: to be printed on your graphics compatible printer with the same character font used on your computer. This means all the Atari special control and graphics characters will be printed, along with inverse.

The built-in Task Master sector editor is the most powerful editor for the 8–bit. It contains a sector copier featuring multiple copies, automatic formatting, and uses all available memory for fast disk duplication. The Task Master is not limited to only floppy disks. It can handle up to 16 megabyte hard disk partitions (even in the sector copier mode)! The Task Master provides full DOS support for MYDOS, SpartaDOS, and Atari DOS derivatives. Subdirectories are fully supported! You may link through individual files by simply moving through the directory and highlighting the file you wish to edit. 16-bit and sector map linking are supported for hard disks, and 11-bit linking for floppies. It is ideal for quickly editing files and repairing damaged directories.

The Black Box Enhancer sells for $49.95 plus $5 shipping and handling.

Ordering Information

Call CSS at (716) 429-5639 between 10am and 5pm Eastern Time to order, or send your order to the address below. CSS accepts payments in cash, money order, Visa, MasterCard, or COD. Personal checks are also accepted, but shipment of your product is delayed until the check has cleared. Foreign orders must be paid in US funds.

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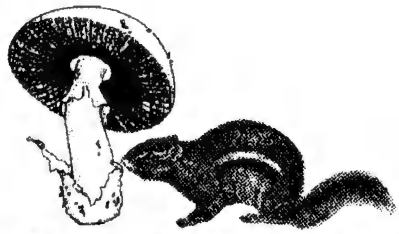


Calamus SL
Desktop Publishing Professionally

Running Out of Ram by David Barkin

It seems fitting to me that my last article of 1993 will deal with *Calamus SL* by DMC. *SL* is one of those programs that justifies buying an Atari. It strengthens the position of our platform on the personal computer map. There are now at least six programs for the ST/TT line of computers that are as good or better than any competing programs on other platforms and a host of others that are quite competitive. *Calamus SL* by DMC, *Dyna Cadd* by DMC and *Retouche Professional* distributed by Goldleaf and/or San Jose Computer. There is *Avant Vector* distributed by Codehead, *OCR* by Migraph and *Convector* distributed by Gribnif. I don't want to say that this is by any means a complete list of cutting edge programs, but these are the programs that I am familiar with. In addition, it is my understanding that there are MIDI and data base programs that are also making waves. There are others, but aside from the quality of *Calamus SL* as a program, there are other reasons for referring to it as "cutting edge."

The Program Revolution

As personal computers have grown in power and flexibility the software written for them has increased in power and *complexity.* Programs and program size are starting to get out of hand. Size and complexity are starting to have a negative impact on speed and performance. To complicate matters more, locating and tracing bugs in programs is beginning to be a nightmare.

What to do? Programmers are coping by starting to modularize their programs. A program, of which *SL* is an excellent example, forms a bare bones framework for an open ended system of expansion. In other words, programmers are creating programs that don't do much by themselves but allow the user to load (and/or delete) modules, which actually carry out the purpose of the program.

This may sound a little confusing but these modules are not separate programs, they are an integral part of the program *once they are loaded* and cease to be a part of the program when they are deleted. The user controls this process in a very simple setup procedure. What does this mean in practice and the practice of *SL* in particular?

Aside from the *SL* program itself, which is a husky 600 K, every other aspect of the program is a loadable module. In fact, without the modules about the only thing you can do with *SL* is load, print, save and delete documents, except under certain circumstances. For example, if a graphic frame is created and then all modules are deleted, you can still import images into that frame. (If you had deleted the frame module *before creating this frame*, you couldn't create it in the first place.) Thus a number of these modules are, for all practical purposes, necessary to use the program.

DMC recognizes this and all the modules necessary to use *Calamus* are included. These include modules for frames, lines, text, text editor and a number of others, including one module whose function shocked me and revealed how little I know about this trade of typography, which I so desperately am anxious to learn. This was the Raster Generator Module. More on this later (if I remember). But let me repeat; these modules, *once loaded, act as if they were integral parts of the program, until you delete them.* Once deleted the memory is freed up. If all the modules that come with *SL* are deleted, then about 500K of memory is restored.

But this is just the beginning. DMC and independent developers are creating numerous other modules, which are not necessary to run the program, but which are sure handy to have instant access to. A complete Vector drawing program, a handy raster program, suitable for minor modifications and simple drawings, a color separation module, a full featured auto tracing program and plenty more.

What's beautiful about this is that these modules can be loaded, used and then deleted, freeing memory for other purposes. Furthermore, even the import/export drivers work just like modules so that you can have just the drivers that you need and use only the minimum amount of memory. All of this is easily set by the program so that every time you run *SL* only those functions that you use on an everyday basis are loaded with the program. This is part of the good news about *SL.*

Who Can Use SL?

Another aspect of the program to consider is just who in the ST world has enough power to use it. On my Mega 4 computer, with *Quick ST, Multi-Desk* and *UIS III* loaded, I have around two megs of free

memory. This is ample unless you start loading gray scale or color .TIF files, but it also says that unless you have a 2 1/2 meg machine forget using *SL*, and even 2 1/2 is really squeezing it. Contrary to what was believed, *SL* is *not* tweaked for the TT. It runs plenty fast on the TT but it also runs acceptably fast on my Mega, Not as fast as *1.09N*, but quite good enough. Documents print at the same speed with either version of *Calamus*. For a complete list of the new features of *SL*, consult DMC directly. An article could be devoted to just listing the new and improved features of *SL* and even that might be an understatement.

So far, looking over this article, I see I'm writing a very favorable review of *SL*. Ok, what about my tutorial? What about all these promised criticisms?

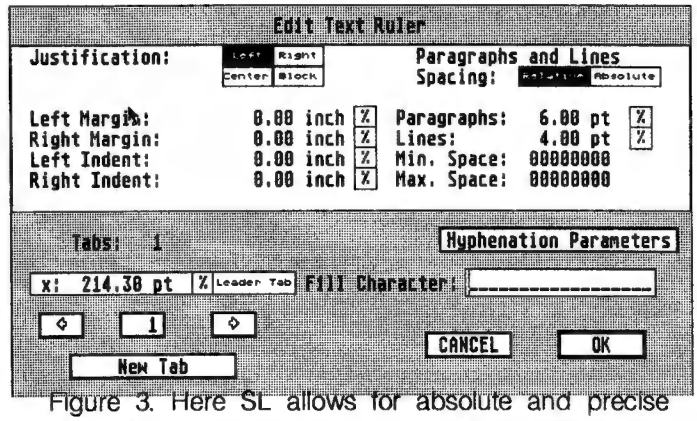


Figure 3. Here SL allows for absolute and precise margin, tab and paragraph positioning as well as line spacing etc. All of this is directly accessible from within the text editor.

The Macro Recorder

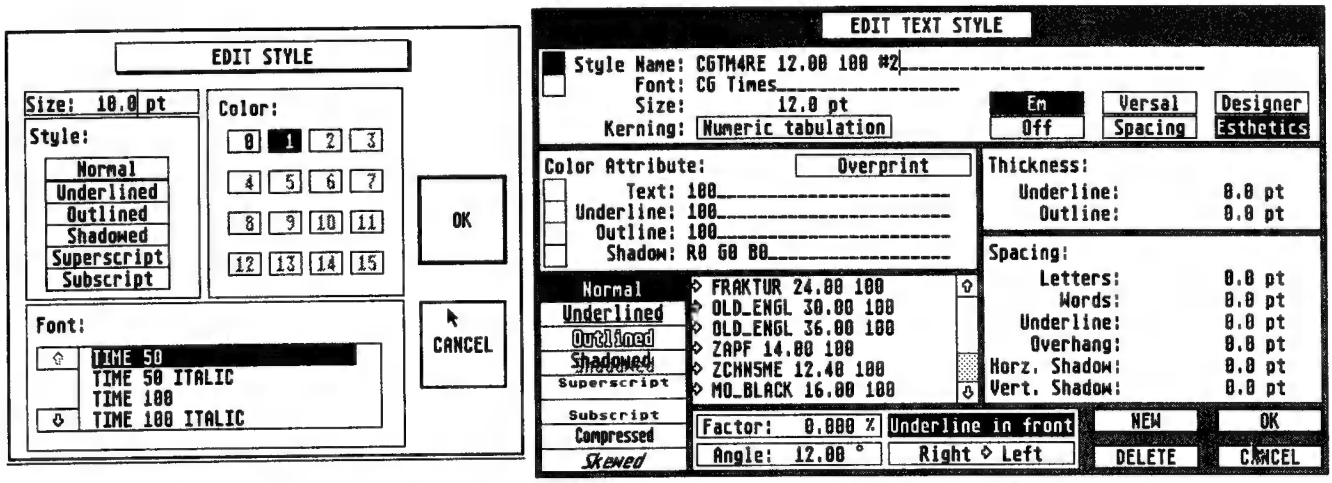
The really nice point of using *Calamus 1.09* was its customizable help file. The only difficulty with this file was that you were limited to the alternate and function keys (in addition to the selected letter key) and, since the help file is an ascii text file, you had to go in and edit it. This is, of course, no big deal, but who wants to do it? I've redone my help file four times in three years.

Calamus SL takes a different approach to the same end. The program comes with a built-in, simple to use, macro recorder. Turn the recorder on by hitting "Alternate" + "escape" (or the file drop down menu) and every key stroke you then do will be recorded until you once again hit "alternate" + "escape." You are then asked to assign a key equivalent, which you can use to duplicate all that motion.

You can assign the alternate key, the control key, the right shift key, the key to your house, just about any key at all, giving a flexibility in macro creation, that, if you think about it, boggles the mind. I was happy with the *1.09* help file, but the macro files of *SL* (CKT) are incredible. Ah yes, these macro files can be saved in different configurations and then loaded at will to fit a particular task. This sounds great, but, to be fair, one CKT file is enough for me.

This, of course, is the key to the learning curve in either *Calamus*, but *SL* makes correcting mistakes much easier. *Marcroize everything!* Sort of the slogan for the nineties.

My two real gripes at the program (and both of them are minor) lie in the search and replace text style aspect and the modifying ruler margins. There is no need to go into great detail since the use of margin positioning and search and replace are fairly well explained by the manual and overall represent an improvement over *1.09*. However, the removal from *SL* of the ability to "point and click" and thus set the paragraph and left and right margin position is a low blow to me since I typeset a lot of poetry and this was a gem of a feature.



Figures 1. and 2. Editing text the old fashioned way. On the left Calamus 1.09 on the right Calamus SL. The problem with the SL method is that despite being more flexible than 1.09, it is also more cumbersome. Overall SL's text handling is so improved that this doesn't bother me.

In figure 3. you see the new ruler dialogue box, which allows for far greater precision in setting margins, tabs and indents than *1.09* but this should have been in addition to the existing system and not its replacement.

One important aspect of this is to make a macro of calling up the "create text style" dialogue box. This is because when you are in the text editor, you can no longer define text size and style. You can only choose between already existing styles. By making a macro of the "create text style" box, you can create new styles without leaving the text editor. At the moment there is a bug in this process where the newly created style is not instantly available to the user. You must first close and then immediately open the editor to gain access to the new style.

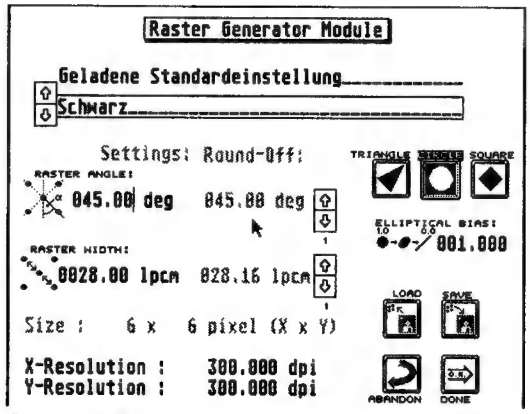


Figure 6. The Raster Generator dialogue box, provides almost an infinite set of possibilities to control the gray levels and the appearance in general of your graphics.

One thing that I should point out is that it is now convenient, but no longer necessary, to enter the text editor to enter text. Yes, you can type in the layout window. While this was possible in *1.09*, it was by no means practical. In *SL* you can enter text at reasonable speeds and use a number of word processing features. The program will even scroll to keep up with your typing. This also acts to more than compensate for some of the good features of *1.09* left out of *SL*.

Another alternative is the new master page feature of *SL*. You can now create, save and load different master pages with different styles and text sizes already set. This should please a number of people who find a deep yearning for "master pages."

One last "tip" before I go to trashing DMC. *Calamus 1.09* is accurate to 1 three thousandth of a inch, *Calamus SL* is so accurate I won't even repeat the numbers. Quite a few users of both programs go to elaborate steps to create grids and help lines for their frames to adhere to. This is often not necessary. Simply create either a macro or a help key for the "cross hairs" icon depending on which version of *Calamus* you are using. Once your have changed your cursor to a cross hair, you can use the cross hair to create and move frames and to align aspects of text and design within frames. As long as you are in one-to-one view mode, then the alignment will be 100 percent accurate. Once the alignment is done "protect" that frame or frames.

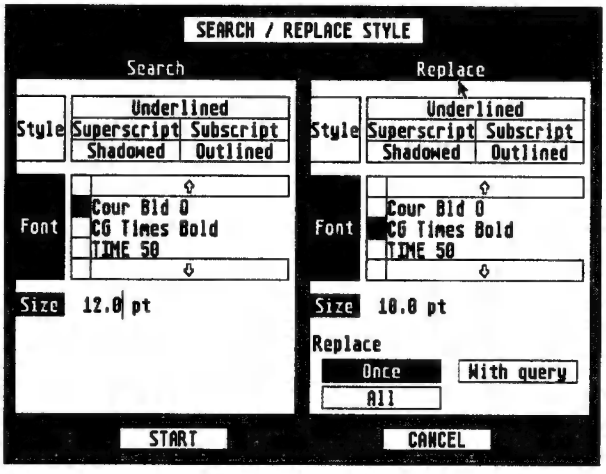
Sometimes you will need the help lines. In fact, in addition to help lines and grids, you can even magnetize frames so that they automatically align with one another; but the cross hairs are often all the power you need.

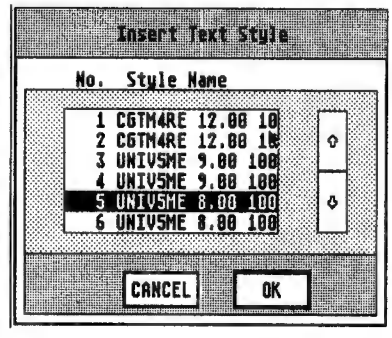
Trashing DMC

I am more than pleased with *Calamus SL*. It reaffirms my membership in the Calamus Cult. By making the program modular, it assures that the program will remain viable for a long time to come. As Desktop Publishing advances, *SL* can advance along with it simply by adding modules.

There is, however, one big weakness in *Calamus* that must make the professional user hesitate before investing in it. For the low budget inkjet or dot matrix user, *Calamus 1.09N* represents enough power for churning out leaflets, flyers etc, although even they might find *SL* useful for manipulating .TIF and other types of graphics for their work. For the person with $40,000 dollars and a linotype machine, ***you cannot do better than Calamus SL.***

But what about me, the intermediate user? I own a TT, a laser printer and a color scanner and, aside from doing a lot of work at home, printed out on my HP III,





Figures 4. and 5. On the left the old search and replace dialogue box from 1.09, on the right the replacement aspect of the new box which allows only choices from pre-existing styles. One has to keep in mind that SL assumes that you are going to use the create text style or master page options, (see figure 2.) even so these dialogues are going to slow the production of short documents from what it could be. All in all, in the production of all documents, speed has been increased but no thanks to the search and replace dialogue boxes.

I also want to use a service bureau for high resolution material. I am, however, in deep trouble. Where do I go?

This need for a service bureau is new to me, in fact owning *SL* to a great extent, has led me to use a service bureau in the first place. But *Calamus* files are compatible with *Calamus* files and nothing else. DMC is about to release a module which will allow me to save *Calamus* pages as graphic Postscript files. This goes a ways in solving my problems. But here I am with a TT computer and *Calamus SL*. I have the power to create *Life Magazine* (no kidding, I said *Life Magazine*) and no way to print it out. It's all very well and good to mail my files to someone in California or Massachusetts, but in the real world I want/need immediate results. The *New York Times* often has a need for freelance work but they expect files to be in Postscript. Some of my costumers, and most of the costumers I want, expect Postscript files. Here in New York I could walk to a service bureau and make those last minute changes at 5 to 20 dollars a page. DMC has two explanations for this problem.

1. The page description language of Calamus is far superior to the page description language of Postscript. This is true. I've spoken to a number of people familiar with both and *Calamus* is superior. So what? This and $1.25 will buy a token for the subway system in New York, but it won't get me printed by a service bureau.

2. We are working on this problem and may come up with an answer. In the meantime we are about to release our module that, in turn, will allow you create postscript files of individual pages. What this means is that the text on the page will be treated as a gigantic vector graphic. In other words, BIG postscript files. Plus, these files will be for individual pages. At the moment, I personally can live with this. Most of my work with service bureaus consists of graphics designs and posters with very little text. The question is can other people live with this.

I want to be fair with DMC. If they announced the future release of a postscript converter and it never arrived, we would scream at them for producing "vapor ware." DMC has a great track record. Some of the products they announce are long delayed, but they do arrive. The present version of *SL* is a free revision that has eliminated all the major bugs.

On the other hand, I have been assured by programmers that such a Postscript conversion module can be done. I can only say that in the real world of Desktop Publishing, it has to be done.

The Missing Link

I've talked here about professional publishing with our favorite computer. This has to include color and gray scale scanning. Next month, this is what I will be talking about. This, of course, is related to my promise to talk about the Raster Generator module of *SL*. In the real world of publishing, it is actually possible to change the relationship of the dots and number of printer dots that form an area of color or gray. Obviously, in a line drawing, this doesn't make much of a difference. But for any graphic that contains patterns of dots, whether it is a vector or halftone or color image, this makes a dramatic difference. The Raster Generator module in *SL* gives complete control over the output of the images to perfectly match either your printer or your mood. One tip I can give you is that the manual does not explain that you must alter all the colors of an image, even if that image is black and white, in order to change the output.

Next month we'll get some illuminating information on color and grayscale scanners, what it means professionally, and where you can get your own.

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Networking Your STs

by J. D. Barnes

Many owners of Atari computers using Motorola's 680x0 CPU family have more than one system. This review explores a couple of pretty nice, yet relatively inexpensive, ways for the ordinary Atari consumer to let these multiple computers talk to one another and share resources.

This review supplements my "Junkyard Pussycat" column of March 1992 since I did not really delve into the networking aspect in that piece.

The Tools

Networking involves both hardware and software. The two primary software tools available for serious Atari ST networking are *Universal Network* from A&D Software and *PowerNet*, created by PowerPoint Software. Since both packages were written by Chris Latham the resemblance is more than coincidental.

Universal Network was the first to appear, in about the middle of 1991. *PowerNet* started shipping in mid-1992, after Chris had left A&D.

Both *Universal Network* and *PowerNet* allow the user to tie his computers ("nodes") together so that software on one computer can access hardware devices on other nodes of the network.

The data flows between computers over a physical link that may be a set of MIDI cables (or MIDI adapter plugs that use standard telephone cable to connect the computers) or a cable joining the "network" ports on Mega STe and TT computers. Some readers may be aware of a third method named "Lantech." I am not discussing this option here because I have never tried it and my sources give it mixed reviews.

Transfer speeds over the interfaces are about 2,000 bytes per second for the MIDI connection and about 20,000 bytes per second for the ST network cables (similar to LocalTalk in the Macintosh world).

What Is Resource Sharing?

In the simplest form of resource sharing, computers can access one another's file systems. A computer that provides files for another to access is called a "server." Computers that simply read files from other computers are called "clients."

In more complex forms of resource sharing, computers can redirect their printed output to the printer port of another node on the network or they can use the modem port of another computer for telecommunications.

Figure 1 provides a graphical view of the way in which devices are shared on a network.

Home Networking-Foreground /Background Operation

Home computer users have found a lot of reasons for buying a second machine. Maybe they found that they were doing a lot of things that tied up their first machines for lengthy periods. Examples include file downloading and message capture from online services, FAX sending and receiving, DTP output, database manipulations, disk formatting, file backups, or mathematical simulations.

With a second machine they are able to carry out other work while the first machine is occupied with its tasks. This kind of crude "multitasking" may actually have a number of advantages over the kind in which a single computer switches from one task to another automatically.

Networking the two machines together allows the user to refer to material that is on the other machine without asking it to stop what it is doing to copy the data onto a

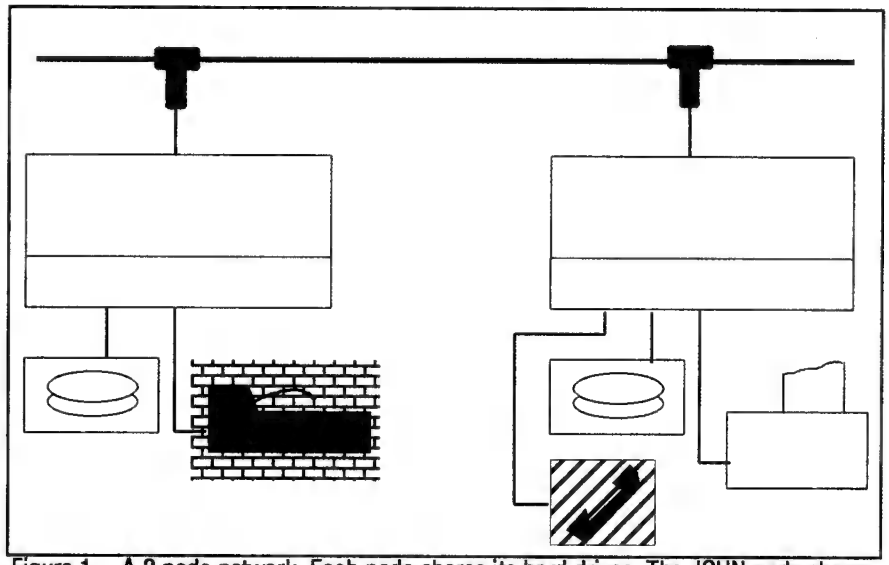

Figure 1 – A 2 node network. Each node shares its hard drives. The JOHN node shares its printer with other nodes. The modem on JOHN and the laser printer on ELLEN are not shared.

removable medium for transfer to the second machine ("Sneaker-Net").

Business Use-Distributed Processing

Businesses want access to their data at appropriate points in their operations. The most common applications fall under the heading of "transaction processing." An order at a sales station generates transactions that can be used to update inventory and customer service databases. Later processing may convert these transactions into other kinds of reports for financial management or tax purposes.

Publishing houses use networking to allow users at scattered workstations to retrieve documents from other parts of the operation when they need them for editing or layout work.

Some of these uses may require specially written applications in order to provide "file locking" or "record locking" to properly control access to data that has to be shared in real time.

Readers who wish to learn more regarding such applications should contact A&D or PowerPoint for details. JMG Software International's *Hyperlink* product may also be useful in some such cases.

Peer-to-Peer File Serving

In the most elementary configuration, the Atari hosts are set up as "peer-to-peer" file servers. This is similar to *AppleShare* under System 7 on the Macintosh or *NetWare Lite* in the DOS world.

The files on one computer are made available to others on the network in a manner that allows for the familiar "point and click" operations. Any one computer on the system sees the entire network as a sort of virtual disk drive. A drive icon can be installed on the desktop and the contents of the other drives on the network can be accessed by clicking through the applicable windows. This is illustrated in Figure 2.

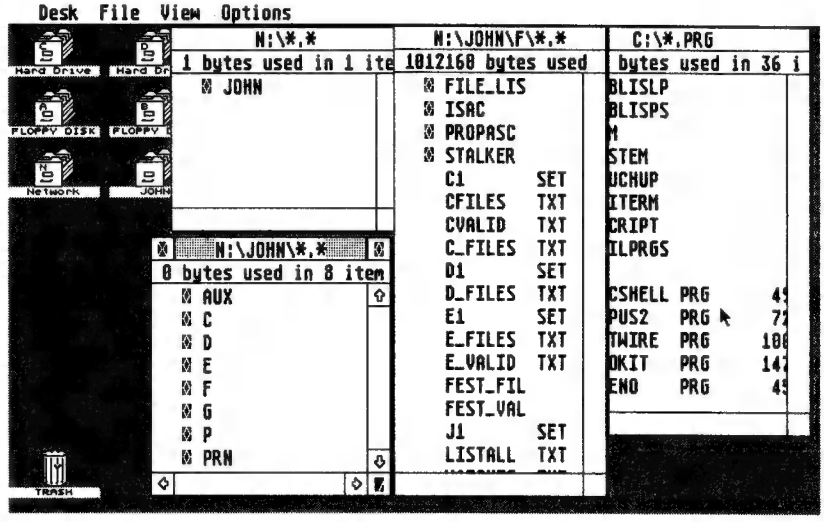

Figure 2 – Selector Windows for Network Devices. This is the desktop of the ELLEN node from Figure 1 with the window for the network device open. The window for the root folder of drive F from the JOHN node is also shown.

Here the "N" window shows the other node on the network (named "John" in this setup). The window for the "John" host shows that its serial port, hard drives (C - G), a ramdisk (P), and its printer port are all available for use over the network.

Any application that uses the file selector (either the built-in one or an add-on such as *Universal Item Selector* or *MaxiFile*) can also access the files on other servers because their virtual drive letters appear in the file selector dialog box. Applications that do not use the file selector can access files on other hosts as long as the path name is properly spelled out.

This is really a nice way to work because everything is largely transparent to the user. The configuration dialogs required to establish the linkages are much simpler than those that are needed for NFS (Network File Services), a popular way of sharing files on high-powered nets.

The Speed Problem

All Atari computers include MIDI Ports, so that this would appear to be the most natural connection for a network. Unfortunately, this connection suffers from slow throughput. At 2,000 bytes per second the user may find that it takes a little while to load a data file into a word-processing application. Delays in loading large data files such as .IMG files could prove annoying. Most users would find that loading applications across the network is more trouble than it is worth, except possibly for networks using the Lantech hardware.

I did test the "networking" connection using my Mega STe and a TT in my local dealer's store. The loading speed for small applications across the network was not too bad, but large applications, especially those that use a lot of auxiliary data (*Word Perfect*, for example) would probably take annoyingly long to load.

However, for many users, who may mostly move data files with a few tens of kilobytes across the network, the speed of the MIDI connection is adequate. Until more people buy computers with LAN ports (TT, Mega STe, and Falcon030), the faster transfer option will not be readily available to most users.

Background Copy

"Background Copy" offers a way to reduce the annoyance of waiting for large files to move between machines. Both networking

systems provide a desk accessory that allows the user to select files on one host and copy them to a different host. Once the transfer process is launched it proceeds at its own pace while the user does something else.

I find this very convenient when downloading batches of files from the online services. I can move the files that have already been downloaded from the "John" node (the one with the modem) to the "Ellen" node (the one with more disk capacity), extract them, view them, and decide what to do with them while other files are still being downloaded.

Background copy also allows me to make duplicates of critical files on a disk in the other server as soon as I am done using them.

Internals

Both *PowerNet* and *Universal Network* need to replace the parts of the Atari operating system that are concerned with file handling (GEMDOS) in order to do their things. This is accomplished by placing the appropriate program in the user's AUTO folder as the very first entry. Once this is done, other aspects of the network configuration have to be dealt with using the appropriate auxiliary programs. *PowerNet* seems a little simpler in this regard than does *Universal Network*.

The operating system that results after being patched from the AUTO folder provides a limited form of multitasking in which the file transfer functions steal CPU cycles to do their work on an intermittent basis.

System configuration consists of setting up the AUTO folder and a couple of configuration files which point to the appropriate device drivers to enable network data transfers.

Gotchas

There are a few glitches in the business of using *PowerNet* or *Universal Network*. The first of these comes to light when launching programs that require auxiliary files (.RSC files, for example) across the network. These applications sometimes lose track of the locations of these files, causing them to crash on launching. In most cases, this can be taken care of by assigning an "alias" to the path name, thus fooling the application into believing that it is being launched from the root directory of a local disk drive.

Programs that bypass the normal file-handling system are also doomed to failure. Hard drive backup programs often fall into this category, but extensive backups across such slow networks are not attractive in any case.

Programs that address hardware devices directly will probably disrupt resource sharing. Programs that handle their own printing or access to the modem port fall into this category.

Cross-Platform Issues

Many Atari users also have Macs or IBM clones and would like to trade files with them in real time. Alas, this is not yet available and it is doubtful that it ever will be. The equivalents of AppleShare, NFS, or Novell networking are pretty complex code for the kinds of small outfits that we see in the Atari world, and the Atari market is too small to generate a significant demand.

Documentation

The documentation for *PowerNet* can only be described as execrable. The people responsible for this are really shooting themselves in the foot because they are limiting their market to sophisticated users who can bring up their networks and use them with only minor guidance from the instructions. This is a very small "niche" market indeed.

There are several modules on the disk that get no coverage at all, and others, such as the redirection desk accessory, get only an extremely terse description in a READ.ME file.

The documentation for *Universal Network*, on the other hand, comes in a nice binder and is quite well-written, although it also fails to inspire the user with any sense of the real capabilities of networking.

The Bottom Line

Having been a network user for about a year now, starting with *Universal Network*, I am really quite content with the capabilities of the products. If I were to make an initial purchase right now, I would say that going with *PowerNet* is certainly the cheaper choice. The hardware and software are much cheaper than the equivalents from A&D and the installation and maintenance are slightly smoother. A novice user might appreciate the superior documentation that he gets by spending more to go with *Universal Network*. Neither product provides technical support that is worth raving about.

While networking is not a "must have" item for the average user, the two products discussed in this review are economical enough so that users who have multiple machines may get a lot out of them. Small businesses will definitely want to look into networking and hobbyist users will find it a lot of fun.

The newer generations of Atari machines—the TT, Mega STe, and Falcon030 provide hardware that makes networking much more practical. Unfortunately, the installed base on these machines ranges from small to non-existent, and most of today's users would be stuck with MIDI networking. This tends to limit the attractiveness of the tool.

I would be particularly interested in hearing about ingenious networking applications from other users.

The Future of Atari Networking

Every Apple Macintosh comes with built-in LocalTalk and the usual Mac Postscript printers use this to connect to the system, so that networking is a way of life for this user community. Consequently, the array of available tools is very large. The network software has been designed to permit an easy migration to more powerful networking hardware such as Ethernet. At this level networking becomes completely painless, even desirable.

NeXT machines come with built-in Ethernet, and add-on Ethernet boards for Macs and IBM clones are coming down in price. The peer-to-peer server concept is becoming available at a very low price on these platforms as well, so that it is safe to say that networking will become increasingly important in the larger desktop computing community.

Atari's forays into the networking world to date have been tentative to say the least. They do not yet have a basic operating system that supports the kind of multitasking that is needed to make networking truly functional. All of the development to date has come from third parties with very limited resources.

We can expect a significant demand for networking only if Atari manages to greatly expand its user base with a new generation of machines based on the 68030 and its successor chips (because these are better adapted for multitasking). In addition we must look for penetration into the business, academic, and scientific communities because the computer appliance marketplace, aside from a few gaming applications, does not have a real need for networking.

Contact Points:

Universal Network and *Universal Item Selector*; Application and Design Software, 280 Peach St, Merlin, OR, 97532.

PowerNet; PowerPoint Software, P.O. Box 942, Merlin, OR, 95732.

MaxiFile; Codehead Technologies, P.O. Box 74090, Los Angeles, CA, 90004.

HyperLink; JMG Software International, 892 Upper James Street, Hamilton, Ontario, Canada L9C 3A5.

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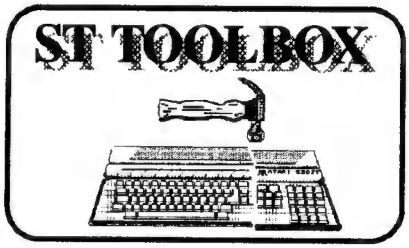

Programming as a State of Mind

Modules, Units, Packages: Divide et Impera

by J. Andrzej Wrotniak

It has been a long time. The previous *State of Mind* column appeared last June. I am, however, planning to continue our language-independent coverage of modern programming techniques to the bitter end, even if it takes ten more years (it probably will!).

As much as I am trying to keep each installment a self-contained whole, a degree of interdependence is hard to avoid. If you have doubts about some concepts referred to in this article, you may dig up the earlier parts (April, May, July and December '91, June '92).

As always, your letters with remarks, suggestions, criticism and encouragement are greatly appreciated. Both Joe and I are nicely surprised with the response we are getting on the subject from our Readers.

In Praise of Bureaucracy

Writing a large program can often be compared to running a large institution. As long as the system (program, institution) is relatively small, you may base its organization and *modus operandi* on common sense and trust. Information may be fetched and distributed by whomever is at hand at the moment, people may fill in one for another, anyone can answer a letter, and to find out who's got this important order from the last week, you have just to yell or look around in the office.

More importantly, the chances are that the system includes no dangerous elements: incompetent idiots or misbehaving program parts, respectively; and if it does, you well know where they are, what they do and what damage they may cause.

As the system grows, things start going worse. If the number of its components is increasing as *n*, the number of possible interactions between them grows much faster, more like *n* squared. Quite soon you will discover that some things are never done because everyone thinks it was somebody else's task, while on some jobs people are getting into each other's way, performing incompatible and out-of-sync operations on data objects (documents, orders, whatever).

This is usually the time to divide your company into departments. You have separate parts of your institution dealing with specific groups of tasks: marketing, maintenance, production, accounting, publications and so on, and the interaction between the departments is more or less formalized.

Imposing such a bureaucratic structure on a working entity has its advantages and disadvantages. On the one hand, some seemingly simple tasks may suddenly take more time and legwork; on the other, the whole thing becomes, once again, manageable. Well, you don't need me to tell you; everyone has had, at some time, to deal with this or that government agency.

Managing the Complexity

At some stage of size and complexity of a software project, the center of gravity in programming shifts from coding, i.e. linear translation of a designed algorithm into a programming language, to software engineering: managing the project's complexity. It becomes no longer important whether you terminate a block with a brace, "}", or with an "END"(although there are still people out there arguing which is neater), or in what order the function declarations should be included (let me spare you the references; you can find this stuff even in your favorite computer magazine). Even most arguments in favor of or against the so-called structured programming miss the point, dealing with minor issues, like what is the best way to terminate a loop.

What counts now is how the whole program is organized, what the various pieces of code know about each other, what information (data objects) they share or exchange, and what they know about those objects.

In a well-run corporation, if I need a piece of equipment, I ask the purchasing department to order it and I do not care (or know) how they do it. This is like calling a function in a program: there is some information the caller has to supply (for example: what to buy and who may be selling it) and an expected result: the equipment being delivered to my shop (assuming the corporation is well-programmed, which often is not the case). This is an important step in software development, called *code abstraction*, where the details of implementation of a function are hidden from (and irrelevant to) the user, who needs to know just the specifications (input, output, expected behavior).

On the other hand, the purchasing department may have no idea about the object they will be dealing with: a Van de Graaf generator may be for them just a funny word with a price tag attached. Similarly, many parts of our program may have no need to know the internal structure of a data object, even if they are dealing with this object, and this is called *data abstraction*.

Who Can Access What?

Last December we were discussing here the first stage of code abstraction: organizing a program into *subprograms* (also known as procedures, functions, subroutines and what else, depending on the language). Let us have a look at an example program using this technique, and this time in standard Pascal:

```
program Ex1;
var x, y, z: real;
```

```
function f1( a, b: real ): real;
var y: real;
begin
  ... here goes whatever f1 does ...
  end;

procedure f2( u: real );
var z: real;
begin
  ...here goes whatever f2 does ...
  end;

begin
  ... this is the main program block ...
  ... making calls to f1 and f2 ...
  end.
```

The code abstraction achieved by defining **f1** and **f2** used repeatedly in the main block should be quite clear (see last December in case of any doubts). These functions are not, however, as detached from the main program as they might be—and this is because they share its data space, often called a *declaration scope*.

Let us have a closer look at who may access, use and modify the three variables **x**, **y** and **z**, declared at the top.

x is shared by **f1**, **f2** and the main program block. So would be the other two, except that **y** cannot be accessed from **f1**, as there is a local variable there, sharing the same name (but otherwise being a different animal altogether). On the other hand, **y** will be accessible from **f2**, but **z** won't, for the same reason.

(By the way, if you were trying to skip this example because you are programming in C, go back and re-read it: everything works here almost the same way for Pascal, C, C++, Modula-2, Ada or better dialects of BASIC).

Obviously, if a variable is used exclusively inside a subprogram, it should be declared there; this is the safest and cleanest way of doing it. Unless the programmer who wrote our example is a complete incompetent, there must have been reasons to declare **x**, **y** and **z** globally, and there are three possibilities:

(1) **x**, **y** and **z** are used (only) in the main block. In Standard Pascal there is no way to hide them from the subprograms.

(Some dialects of Pascal allow us to declare variables *after* procedure declarations, just before the main **begin**, and this would be the good way to do it, to avoid any erroneous changes from inside the procedures. In C you may declare variables *inside* the **main()** block, and this will make them hidden from the functions. Okay, this was just for the technically oriented.)

(2) **x**, **y** and **z** are used by the main block *and* the procedures (one or both, with limitations as mentioned above). Their values must, indeed, carry some information relevant to the code, which is authorized to access them.

(Usually a better way to pass such information is via subprogram parameters, but there are cases when global variables are more convenient, and not just more efficient—which is always true.)

(3) Some variables (here it can be just **x** because of, again, repeated names) are used in **f1** and **f2** (but not the main program block). If **f1** and **f2** do not call each other, global variables are the only way in which they can exchange any information.

Note that in every case there may be a program block (main or subprogram) with an access to a data object with which it has nothing to do! For many reasons this is not a safe programming practice: the code should have access to data, if only possible, on a strict need-to-know basis.

Solution in Modula-2

In most of the modern languages it is possible to re-write our example so that the subprograms **f1** and **f2** can be compiled separately from the main program. This is often called modularization. Let us do it in a language related to (and derived from) Pascal, in Modula-2.

Before that, let us assume (we need this to make the right design decisions) that each of our global variables serves a different purpose as listed in the previous section:

(1) **z** is used exclusively by the main program,

(2) **y** transfers some information between the main program and **f2**,

(3) **x** is accessed only from the subprograms **f1** and **f2**

First, we will write the *library module*, containing the subprograms. In Modula-2 it will consist of two parts (each in a separate file): *definition* and *implementation*. Instead of explaining formally what that means, let us just see and things should be self-explanatory.

Here is the library module definition:

```
DEFINITION MODULE Lib2;
VAR y: REAL;
PROCEDURE f1( a, b: REAL ): REAL;
PROCEDURE f2( u: REAL );
END Lib2.
```

This is all the information the main program needs to call our subprograms properly, and to use the variable **y**. How **f1** and **f2** work, and what they may do to **y** is described in the implementation:

```
IMPLEMENTATION MODULE Lib2;

VAR x: REAL;

PROCEDURE f1( a, b: REAL ): REAL;
VAR y: REAL;
BEGIN
  ... here goes whatever f1 does ...
  ... it may use global x defined above ...
  END f1;

PROCEDURE f2( u: REAL );
VAR z: REAL;
BEGIN
  ... here goes whatever f2 does ...
  ... it also can use x ...
```

```
  ... as well as y from the interface ...
  END;

BEGIN
  ... module initialization ...
  END Lib2.
```

The main module will have just the implementation part:

```
MODULE Ex2;
FROM Ex1Lib IMPORT x, f1, f2;
VAR z: REAL;
BEGIN
... the same code as in Ex1 ...
END Ex2.
```

Now, this is simple, safe and elegant. The main module (sometimes called a *client* of the library module) is explicitly informed (with the **IMPORT** clause) where to find subprograms and data objects not defined locally, and does not have any access to any not immediately relevant to its functioning, as e.g. the variable **x**, declared inside the implementation of **Lib2**. In the same spirit, the subprograms **f1** and **f2** are unable to access (and mess with) the global **z**, which is of relevance only to the main module.

The library module may *export* not only data objects and subprograms, but also data types and constants, and its implementation may include procedures not listed in the definition part: they will be then accessible only from the implementation part itself.

Most interestingly, the library module implementation may contain some optional code (the part in the final block) which will be executed once when the program is run, before any statements from the main block. This is often called *module initialization*, as that code is most frequently used to set up some data later used by the procedures from the module.

Library modules can import entities from other library modules (becoming their clients) and thus the whole module hierarchy can be nicely and unambiguously defined.

Needless to say, a library module can be compiled just once, well tested (ha-ha!) and then re-used with various programs. In the same spirit, modifying a library module implementation will not impact any client modules—as long as the definition remains unchanged.

Modularity in Other Languages

For reasons beyond the scope of this article, Modula-2 never became a predominant force on the programming market, and even less so on the Atari ST. Luckily, some of the other languages offer similar modular features.

C is not really a modular language, although it may seem so at the first glance. It offers independent compilation of units (called just "files"), and the ANSI standard requires that any called function must have a *prototype* (exactly like Modula's definition) in the client module.

The latter requirement is usually met by enclosing all prototypes of client-accessible functions in a header file (type and variable declarations can also be there), as in this example (good in ANSI C and in C++):

```
/* Library header file "lib3.h" */

extern float y;
float f1( float a, float b );
void f2( float u );
```

The library file will look, syntax differences aside, very much like the Modula-2 version:

```
/* Library file "lib3.c" */
#include "lib3.h" float y;

float f1( float a, float b) {
  float y;
  ... whatever f1 does ...
  }

void f2( float u) {
  float z;
  ... function body, again ...
  }
```

The main program file will also be very similar:

```
/* Program ex3 */
#include "lib3.h" void main() {
  float z;
  ... whatever the main program does ...
  }
```

There are few differences between C/C++ and Modula-2 versions. First, C gives us the choice of declaring **float z** inside the **main()** block (it will be then accessible only from program statements in this block) or outside, on the main file level, in which case it could be shared between main() and any other functions implemented in the same file. Modula-2 offers only the second possibility.

Second, C (or C++) does not allow us to have a library module initialization code, and I am sadly missing this option.

Third, the **#include** mechanism used by C/C++ is entirely different than module dependencies implied by Modula's **IMPORT**. Using the **#include lib3.h** directive is, by definition, equivalent to retyping the whole file **lib3.h** at the spot. Really, C's **#include** is just a typing shortcut rather than a meaningful information for the compiler and this often leads to problems.

Danger: Name Conflicts!

Most importantly, the function prototypes and **extern** declarations in C just inform the module that the declared entity (data object, subprogram) has been really defined (allocated space, coded) somewhere else, without saying exactly where. What follows is that each entity has to have a unique name across the whole software project!

This means that if one library has a function **find()** performing some task, and another library defines a **find()** doing something else, you cannot use both libraries in the same project, even if both functions are never accessed from the same module. You will have to go through all the code and do lots of renaming. Worse, even the functions hidden inside

their respective modules and never accessed from outside, must have unique names, and this can be a pain.

With a team of programmers working on a large project, such name clashes may be detected in the least suitable moment: during the final system integration. This seriously limits the usefulness of C in development of medium- and large-size systems.

All these problems are absent in Modula-2 (or Ada or better implementations of Pascal, see below). First of all, entities not declared in the module definition are private to this module, and their names need not be unique. This is already a relief, but even if two modules export a subprogram or a data object with the same name, any name ambiguities can be resolved by qualifying this name with the name of the module, as e.g. **Lib2.y**.

Pascal–Down with the ISO Standard!

The standard Pascal knows nothing about independent, or modular, compilation. All the stuff has to be in one program file, as shown in the first version of our example, **Ex1**.

This is one of the reasons why standard Pascal may be OK for an elementary programming course, but for even modest-size programming projects its usefulness is highly questionable.

Luckily, the good people of Borland sold more copies of their compiler than all other Pascal vendors together. One day they looked around and said: "We do not have to follow any standards, we *are* a standard!".

From this moment on, having the choice between following the recommendations of the ISO Standard Committee and making their language usable in real-life programming, they would always choose the latter option, for the benefit of us all.

Starting from Version 5.0, *Turbo Pascal* includes quite powerful and clean modular features, with clearly defined definition and implementation parts, explicit module dependencies and even with module initialization option. Of course, they had to give new names to (almost) all familiar concepts, but this only makes life more entertaining. Instead of elaborating more on the subject, let us just rewrite our example in *Turbo Pascal* (here definition and implementation are in the same file, but this is just a technicality).

```
unit Lib4;

interface

var y: real;
function f1( a, b: real ): real;
procedure f2( u: real );

implementation

var x: REAL;

function f1( a, b: real ): real;
var y: real;
begin
  ...
  end;

procedure f2( u: real );
var z: real;
begin
  ...
  end;

begin
  ... initialization ...
  end.
```

The main program module will be also a virtual copy of the Modula-2 version:

```
unit Ex4;
uses Lib4;
var z: real;
begin
  ...
  end.
```

For the Atari ST programmers, the *Turbo* implementation is not just a matter of academic interest (or drooling). Some Pascal vendors, including two European houses on the ST market, also decided to dump the standard. Reasonably, instead of developing their own dialects of Pascal they chose to implement (more or less closely) the Borland dialect.

I am aware of two such Pascal implementations. One is the *HighSpeed Pascal* from Denmark (significantly improved since I reviewed it here and currently distributed in the U.S. by Oregon Research Associates). Its modular features are exactly like those in *Turbo Pascal* (compatibility with Version 5).

Just a few days ago one of our Readers sent me a disk with the demo version of the *Pure Pascal* (a German product). The demo contains no documentation, but the code examples clearly show that this implementation is Turbo-compatible, including not only the unit structure but also the object-oriented extensions (Versions 5.5 and 6.0).

Other dialects available on the ST platform are *Prospero Pascal* and *Personal Pascal* (originally from OSS). *Prospero* allows for a degree of modularity similar to that of C, a notch below that of Modula-2 or *Turbo Pascal*. *Personal Pascal* has independent compilation so that functions can be organized in self-contained libraries, but if those modules contain any global-level variable declarations, they have to be exactly the same as in the main program module (all of them!). It would be quite difficult to come out with a more botched design, and from this angle, *Personal Pascal* is not much more useful than the Standard Pascal.

Modularity in Other Languages

The modular features (the so-called *packages*) in Ada are almost exactly as in Modula-2, with some quite powerful extensions. For us this is, however, of purely academic interest, as there are no Ada implementations for the ST.

Most dialects of BASIC (including GFA) do not allow for library modules, with the notable exception of *True BASIC*, quite closely matching Modula-2 in this aspect.

Finally, FORTRAN (preceding all languages discussed before) has a quite different approach to modularity. Each subprogram is a self-contained module, and no data objects can be declared outside of subprograms. To allow for information sharing without passing it via subprogram parameters, you may declare some data objects as placed in so-called common blocks, areas accessible from various subprograms. Just for the sake of entertainment, have a look at our example re-written in FORTRAN:

```
REAL FUNCTION F1( A, B )
REAL A, B
COMMON /CX/ X
REAL X, Y
... here goes the working code ...
END
```

`Y` is local in `F1`, while the variable `X` has been placed in a common block `/CX/`, which will also be shared with and declared in `F2`:

```
SUBROUTINE F2( U )
REAL U
COMMON /CX/ X
COMMON /CY/ Y
REAL X, Y, Z
...
END
```

`F2` uses a local variable `Z`, but it also has access to the `X` from `/CX/` and to `Y` from `/CY/`, shared, in turn, with the main program:

```
PROGRAM EX5
COMMON /CY/ Y
REAL Y, Z
... main program code ...
END
```

This mechanism is quite primitive and error-prone (there is no protection against defining the same common block differently in different subprograms, unless you have enough discipline to use one-line "include" files), but better than nothing. Well, just a conversation item, the only people who program in FORTRAN nowadays are these who have to.

Visibility and Lifespan

Modularization, in addition to organizing our code into handy library units gives us an extra degree of control over what parts of code can access what data objects. This, combined with varying lifespan of data objects (i.e. the time interval between their creation and destruction) gives an array of possible combinations.

Last December, after our discussion of subprograms, our choice was between global and local data objects. Now, having introduced the concept of a module (unit, package, C file), the full list of possibilities would be as follows.

* Objects declared in a subprogram. They can be accessed only from this subprogram, are created (with memory allocated for them) every time the subprogram is invoked, and destroyed (memory returned for other uses) on every return from the subprogram.
* Objects declared in a module implementation (this also includes the main program file). With some language-dependent limitations, they can be accessed from all subprograms defined in this module and from the main block or module initialization block, whichever is applicable. These objects gave a global lifespan: from the beginning to the end of program execution.
* Objects declared in a module definition. These are visible from the corresponding module implementation and from all modules importing them with the `IMPORT` or `USES` clause (or, in C, with an `extern` qualifier). Lifespan: global.

Individual languages may add some, not very significant, variation to this list. Thus, Standard Pascal allows us to declare subprograms *inside* other subprograms (not a very good programming practice, anyway), so that scopes of local variables can be nested, while C allows us to declare a local variable as static, so that while remaining visible only locally, it will enjoy a global lifespan (with the contents preserved between leaving the function and re-entering it; this feature is available also in FORTRAN with use of the `SAVE` statement).

The decision of which data objects should belong to which of the above groups is much more important than it may seem at the first glance. A wrong choice may not affect the original program development much, but it may seriously hurt you later, when the program is being modified and enhanced, which usually increases its size and complexity. It is usually cheaper to do it right from the beginning.

The End for Today

This article, intended to be a small piece on library modules, grew somewhat more than I expected it to. Well, once again, I got distracted demonstrating similarities and differences between various languages, but it was fun and I hope you found something to think about, too.

For the less patient Readers: please, do not jump just to "your" language, the one you are (or want to be) most familiar with. Learning *to code* in a programming language is easy, and you can teach a chimpanzee to do it. Learning how to manage the increasing complexity of your software project is much more important, and even many professional programmers will never do it (remaining on the coding stage forever). Looking at how things are done in various languages may be, I think, quite helpful in this task.

In the next *State of Mind* installment we will, if nothing detracts us on the way, move on to a very interesting and not always clearly understood subject: object-oriented programming. "Object-oriented" is a nice catch phrase, and everyone in the software industry is using it recently, with a significant negative correlation between the usage frequency and the understanding what it may mean. This may make the subject even more interesting, and I am really looking forward to it.

Until then, have a Merry Christmas!

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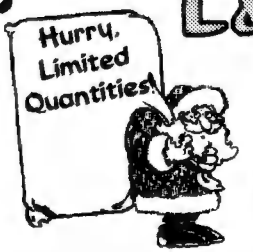

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Atari's Future:
The User Comfortability Factor

by Mark Miller

I first encountered computers when I was about seven years old. I didn't really understand what they were until I began programming in 1982. My first programming experience was on an Atari 800 at the local library. My experiences, which defined for me what computers are, were shaped by that 800. In that context, I can say I had high expectations. It took me a long time to understand the people who really liked using Apple IIs and IBM PCs. This was because I was, and still am, a programmer at heart. I looked for the best hardware and operating system features, at the best price. I didn't understand the other end of the computing spectrum, computer users, what their reasons were for buying their hardware. I finally came to realize they were buying it, for the most part, for all the other reasons besides the hardware itself. It was lots of software and/or customer support that was the most important to them. It's still this way with computer users, which for the sake of argument I will distinguish from computer programmers.

The Last Hurrah of an Older Era

When the ST and Amiga came out in 1985, it was incredible to me. These two blew anything else in the personal computer industry out of the water. Not only did they have an easy-to-use interface similar to the Mac's, but they offered color, too! The ST was incredibly low-priced, and the Amiga could multitask. Back in the time when hardware features and RAM were pretty important, these were like space age stuff! They also added the element of speed to the criteria against which all others were judged, and still are today.

The ST and Amiga were intended for that market that believed in hardware features compared with cost. "Computer hobbyists," as they were commonly called, still made up a significant portion of the market. This is the reason both Atari and Commodore could tout their computers as general-purpose powerhouses, and have that ability be very marketable. Although software was an important factor in making a decision on what computer to buy, it was not the deciding factor ... yet. The ST began to take off, because there was a growing software base and a growing enthusiasm about the hardware. Later, the Amiga began to take the same path, and the ST began to decline.

A New Era Begins

In 1987 a phenomenon occurred that was called "The PC explosion" by *Compute! Magazine*. This occurred around the time when IBM decided to get out of the PC business, at least for a while. This essentially gave third-party manufacturers free reign in a market that IBM had forged. For the first time, one could actually select among many MS-DOS compatibles, rather than being stuck with a small selection. This made real competition possible and lowered prices.

For the first time, major game companies were actually considering making games for MS-DOS computers, as well as others (now games come out for the PCs first and are then converted to other platforms). And people were pleased to know that not only could they do work at home (using a similar philosophy that people used to apply to Apples, "Let's buy this one because this is what I use at the office."), but they could also run application programs that would be useful in their daily lives. The kids could use it too, since real personal computer software was finally being made for the PC, rather than just business stuff.

Standards-setting in hardware, driven by the software industry, also began to take place, gradually making it more difficult for "non-standard" hardware to get into the market. The era of "The Great Computer," where hardware features were an important issue with buyers, basically came to an end around this time. Software has become the deciding factor, determining the viability of hardware.

I am kind of a relic from the older era, as are many Atarians. I have chosen to go Atari consistently because I like the hardware features and the price/performance ratio. Software availability has obviously never been the primary issue in my decision about buying a computer, though it has played some part. I have learned the advantages of being a computer user, but I am a programmer first and foremost. I still look for a computer that meets the criteria, more or less, of that old Atari 800 I used years ago.

Since many people like to make the analogy between computers and cars, I and other computer programmers, as well as the software and hardware hackers of old, can be considered the same as those people who buy, or make souped-up cars. These cars are known for their amazing feats, or for their innovations

in quality, looks, feel, and performance. These are the kind that are watched at car shows now. Getting involved in the hardware used to be the in thing to do way back when, but is now out of the mainstream of car users. Since the end of that era, people have bought cars that have luxury features, go the distance in gas mileage, or are sporty and have some more power than the average car. Otherwise, they are pretty much your standard cars. Every once in a while a great one will come out, but these are isolated events. The cars that are souped up, using nitro and stuff, are for those people who still are fascinated by the mechanisms in an automobile and want to be creative with that technology, taking it to the limit. The silver lining in all this is these kinds of people are just the kind who would make very good mechanics or designers of "civilian" cars, because they have all the skills from their labor of love.

The same goes for the computer world. My aspirations are to become a software developer, though it seems in order to make a living at this, unless I want to go into business myself, I'll have to learn to program on the PC/Windows or the Mac. Either that, or remain at the high-end, and work on UNIX systems (come to think of it, that wouldn't be so bad). Even though we may not like it, we have to go with what the market demands. Don't get me wrong. I definitely want to develop software for Atari computers. I just don't think I'll be able to make a living at it.

Old Ways Die Hard

What I am getting at is, barring the other problems that Atari has had in the past, I think a fundamental problem has been that Atari has changed very slowly to the orientation of the market. What I would hear over and over again was that Atari was improving its hardware in this way and that, and this would attract new customers to the Atari line. This philosophy would have worked about five years ago. People have said over and over again that if ... just if, Atari would put on a major marketing push for the ST, then it would be a force to contend with. I do not believe this is necessarily true either.

People have a funny way about sticking with things, even if they are awkward. Take the typical computer keyboard for example. It is most likely a QWERTY style one. This "interface" was invented many, many years ago in order to slow down the typist, because a touch typist back before the days of the Selectric would jam the hammers of a typewriter too easily if given an optimal keyboard layout. Since the days of the Selectric and when keyboards were added to computers for input, we really haven't needed this style of keyboard anymore, and yet millions of people who type still use this interface. What possible, stupid reason could one give for using this style of keyboard any longer??? Hmmm???

The reason is, once you get trained on one type of keyboard, and are so used to it that you can touch-type on it, it is very difficult to adjust to another style, like a Dvorak keyboard. People have demonstrated that by using another, more optimal style of keyboard (with the keys rearranged so that a maximum number of words can be generated from the home row alone, for example), it is possible for a touch-typist to do 200 words per minute on upwards!! Now, wouldn't this be great? Wouldn't this increase productivity?

Yes, it most certainly would! But, the catch is most keyboards out there are in the QWERTY style on both typewriters and computers. No one would want to teach typing students the Dvorak style, because their skill would not be very marketable (not to mention incompatible with the available hardware). It would just impose hardship on them, because they will have to be trained for the QWERTY style keyboard that almost everyone else uses. While it would improve productivity immensely, the skill does not match the most common interface. In essence, the vast user and hardware base has impeded progress towards better, more efficient methods, and it is self-perpetuating. Perhaps what will finally break this vicious cycle is if alternative, more optimal style keyboards become available for the popular computers, since they could be switched. Thank God for detachable keyboards! With the popularity of computers in offices now, this may finally convince typing teachers to teach the more optimal style, rather than QWERTY style as standard.

Guess What? Software Is More Important Than Hardware!

This analogy applies to software very well. What I have found with computer users, who clearly dominate the personal computer market in buying power, is they want to run a certain piece, or selection of software. Period. That is their first decision. And they generally look by brand name (Microsoft, Lotus, WordPerfect). Users who are more technically oriented will just look for a type of software. These are the users Atari has been targeting with its niche marketing in music and DTP systems. They then go searching for the right computer (the right hardware) to run that software on, at the best price. The features of the hardware are almost superfluous, except for those specific ones that are needed for the software they want to buy.

Even then, many of the features on PCs are so standardized that no one really pays attention to them. People just assume that it will run a certain speed, depending on the CPU they request, have a built-in hard drive of at least 40 Megabytes, a VGA monitor, *Microsoft Windows 3.0* (or maybe 3.1 now), a mouse, and maybe as extras, some other software. This is analogous to someone who knows how to use a QWERTY style keyboard, and wants to find a typewriter or com-

puter with that keyboard on it. They don't have to look far...

If a salesperson were to offer this hardware-seeker an Atari STe or TT with all its great features, and easy-to-use software (trying to sell a Dvorak keyboard, to use the analogy), probably the typical questions asked would be, "Does it run *WordPerfect 5.1*? Does it run *Word*? Does it run *Lotus 1-2-3*? Does it run *Quicken*? Does it run *Prodigy*? Does it run *DOS*? Does it run ‹other popular PC application here›?" Basically, the customer is asking, "Can I type QWERTY style on this?" While there are some equivalents that run on an STe or TT (or maybe not due to software incompatibility), it is likely the salesperson will not be able to answer "Yes" to questions about most popular brands.

If the MS-DOS emulator option is available, that may save the day, but you can bet that there will be more obstacles, "Does it use a 386? Does it drive a VGA monitor? How fast does it run (Mhz)? How many expansion slots will it have? (maybe)" As far as Mac software goes, there should not be that much of a problem, thanks to Gadgets, unless the customer wants to run System 7 or in color ... at least for now.

What Can Atari and/or Atari Software Developers Do?

My point is if Atari really wants penetration in the U.S. personal computer market, they will not only need marketing resources, they will most likely need to convince the major software houses to produce software for their computers. The most important software being ports of applications these companies already have available for MS-DOS/Windows PCs, and the Mac. Either that or else Atari software developers will have to make producing applications that are file-compatible, and up-to-date, with files produced by PC/Mac applications a top priority. And the more of them the better. This would let people who want to buy an Atari use software on it that is familiar to them, and/or file-compatible.

I understand that getting popular applications ported would be a major accomplishment, but having ports as a base would almost be a must in order to get people to convert. This is because they are used to those applications. I think those who say, "Well, WordPerfect is leaving us, but really ... who needs 'em? We have better software that is more user-friendly, and more powerful," are not in touch with what the vast population of personal computer users really want. Sure they want something that works well. They also want an interface they are familiar with, and a program that works with their existing files. If the type of software they want is user-friendly enough on an Atari, they may be willing to switch solely on the basis of file-compatibility.

An Idea That Would Be Simple And Inexpensive

My inspiration for writing this article is the new hardware that Atari has announced, the Falcon030. It looks encouraging. The feature that really caught my eye is the processor slot. This would let another CPU be plugged in, and one could switch to using that CPU instead of the 68030 that is built-in. This would enable it to run a 386SX, or something, with DOS/Windows.

What I have noticed with the windowing interfaces and operating systems for the Intel-based computers (mainly Windows and OS/2) is they all give the user the ability to run MS-DOS. OS/2 lets one run Windows applications as well. I believe this ability was given to them, because it would have been stupid for the designers not to put that ability in. This also provides a smooth transition from one operating environment to another. So many people are used to software that runs under MS-DOS, that any product that did not allow a PC to do so would have serious problems penetrating the market. And it's not just software that runs on MS-DOS that users want. I have heard that some MS-DOS users are so used to MS-DOS itself that they don't want to do without it, even if they could use a better interface (same QWERTY keyboard problem)!

I think a good marketing strategy for Atari to take would be to advertise the Falcon to the outside U.S. market (those buyers who haven't heard of or considered an Atari computer) as very enhanced PC clones, that can run MS-DOS and Windows, as well as the great Atari software that is and will be available for them (having MultiTOS provided as well). This would mean packaging an Intel (or equivalent) CPU with the computer, having it already pre-installed in the processor slot, and providing software to easily switch between the two processors (or it may be possible to run both CPUs at the same time, depending on the hardware and operating system setup).

People looking for computers generally recognize MS-DOS-compatibles or Windows machines as viable choices for them to look at. If it is advertised that these computers can run better, non-PC software as well, then that will let customers choose whether or not to run that "other" software. If they do, then they can make a smooth transition from PC software to Atari software. If they ever need to go back, they can. To use the analogy, this will let users switch between the popular QWERTY style keyboard and the Dvorak style with ease if they want to. Another way of saying this is to do what Darek Mihocka has done with the GEMulator, except do it in reverse and through hardware, rather than software.

As far as marketing to the Atari community itself, it would seem there doesn't need to be much improvement there, since Atari has been doing that for years anyway.

The other argument against PC emulation on the ST has been its lack of ability to go beyond CGA-resolution graphics. This will no longer be true with the Falcon, since it will be able to display SVGA resolution and colors.

The time may also be right, because from what I've heard the software industry for Intel-based PCs is going into a state of transition, from MS-DOS to Windows and/or OS/2. I think I've heard that the companies that make the major applications for the PC are not planning on releasing future versions that run on MS-DOS, but rather on Windows. So, if users want to continue to be up-to-date with the enhancements on these important applications, they will eventually have to use Windows to run them. Windows NT will be a complete operating system, not just an interface, and it will replace MS-DOS as the operating system of the computer. It will probably be able to run DOS applications as well. I don't see why they would design that out. It is still too early to tell the customer to say goodbye to MS-DOS forever.

The fact that the industry is going through a (possible) transition should be seen as an opportunity for the Falcon and Atari, because as you can tell, the transition is moving people away from the old standard, MS-DOS. If Atari can catch them in their move away from that, they may capture a chunk of the market.

This is all based on the current specifications that have come out about the Falcon. If Atari changes these specifications and takes away some features from the initial specs, then this could be a very different story.

The Bottom Line

Some of you may be saying after all this, "Why is this guy even suggesting that MS-DOS and Windows should be supported on the Falcon as standard, since they are old or very slow? The Falcon and its operating system are so much better." I agree that the Falcon is better, but if Atari is to really get into the computer market, it needs to go with what the users want. Many users don't necessarily know that one system is better than another. In fact, some could probably care less. It gets the job done, and they're used to it. These are the people Atari was trying to reach with the ABC line of MS-DOS computers.

If this suggestion is still nagging you, then I suggest you reevaluate what you are supporting, if you are an Atari supporter. If you insist that Atari computers and the software for them are better than the others, and therefore shouldn't even think of supporting software like the others have, then you are perpetuating the "small pond" that we Atarians exist in today. And you will be wasting your time complaining that Atari doesn't market their computers enough in the personal computer industry. As you may be noticing, the niche markets Atari is going into emphasize high-end systems, not personal computing, although some of it does spill over to the personal computer market.

It should be obvious that Atari does not have the marketing resources to make a major push into the market to get all those millions of users to leave their PCs behind, and switch to a non-PC-compatible Atari. It is not a matter of what is the best. It is a matter of what computer users feel the most comfortable with. This is the principle that IBM has used all along. Even though their technology usually isn't the best, it is a money saver because generally you can run your older software on an IBM computer (company managers like that), and since it runs older software, you don't need to retrain the employees on other software (managers like that, too). It may not sound logical from the techie point of view, but to users, it makes sense. You can include those great features of the Falcon, but unless users are comfortable using it in all aspects (operating system, and up-to-date brand name software or compatible software), it won't sell that well, except in the Atari community itself.

■■■■■■■

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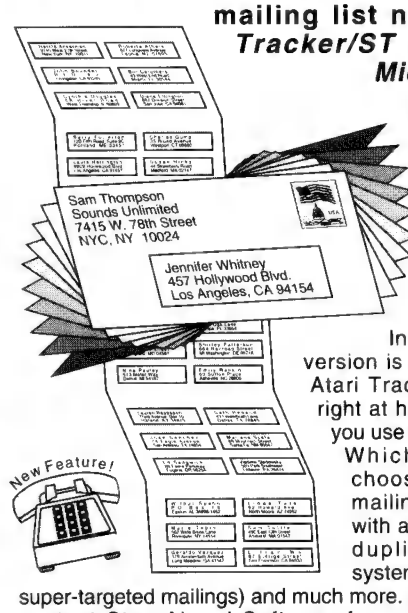

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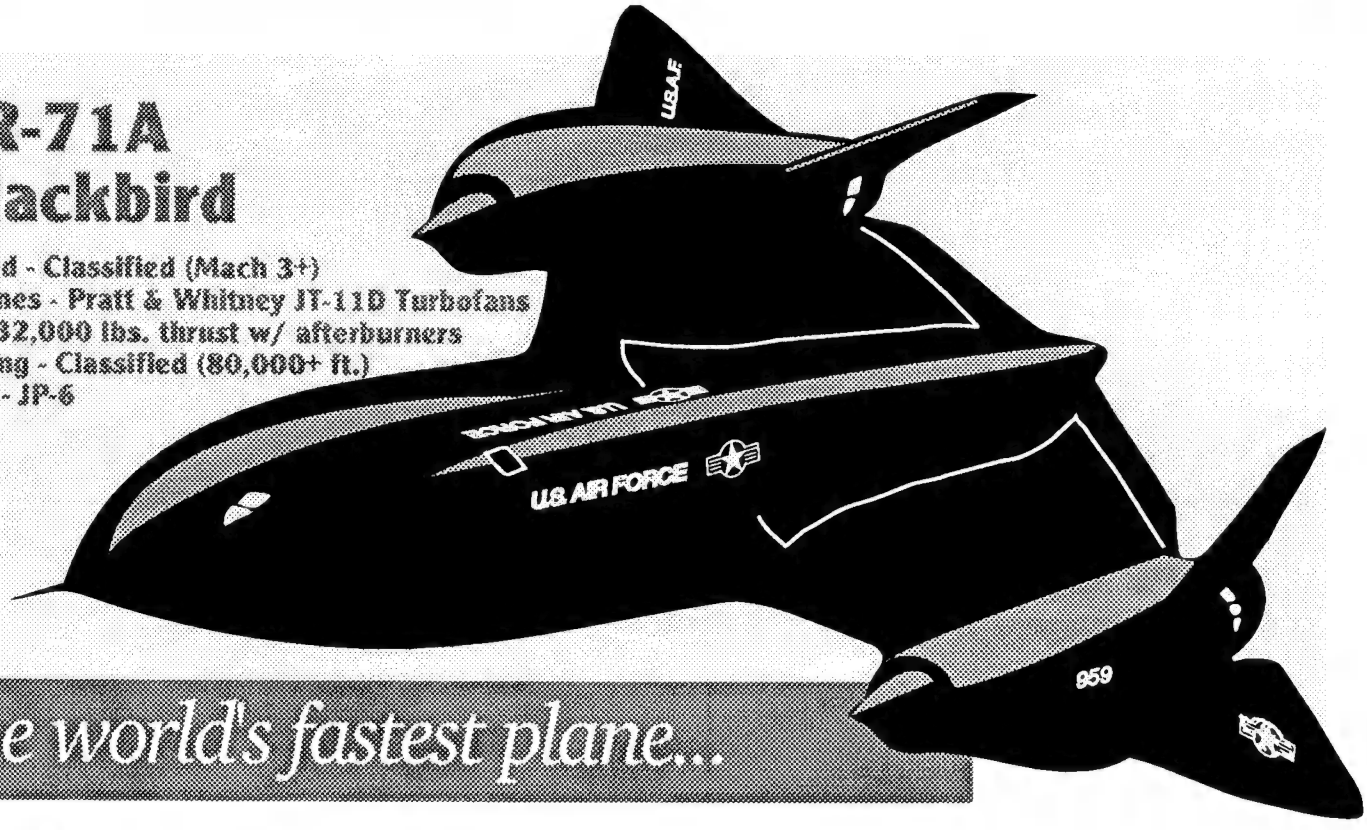

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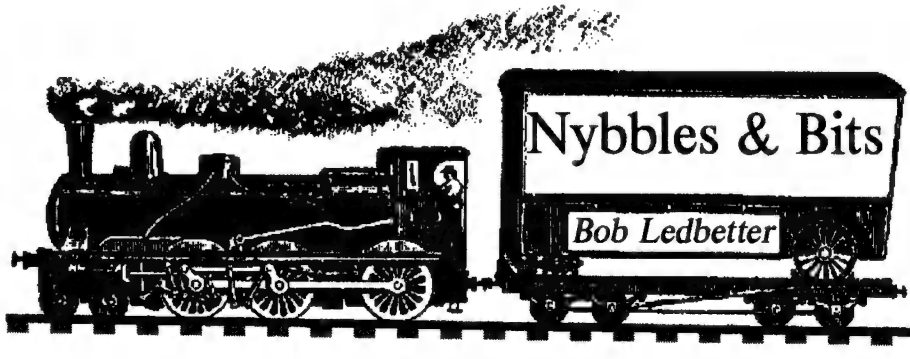


Emoticons, Flopticals, Link, and Falcon030.

Last month I introduced you to *QuickCIS* to help you in your wanderings through the World of CIS. This month we'll take a peek at a few of the "Hot Topics" of the month. Namely, the Floptical, the LINK and the Falcon030.

Emoticons

First, however, I want to give you definitions for a few of the Emoticons you will encounter on CIS. What's an emoticon? An emoticon is a noun, a figure created with the symbols on the keyboard. Read the Emoticons in the Table below with the head tilted to the left. These are used to convey the spirit in which a line of text is typed.

Floptical

Okay, the Floptical. Now what in the sam hill is a Floptical? Well, it's a cinch Floptical is railroader's jargon. Those guys like terms like hoghead, crummy, snake, and gandy dancer. But CIS Sysop Bob Retelle says, "Floptical is a real word all right... it was just invented recently, so you know it's gotta be real..!"

And indeed, it is. A Floptical is a new gizmo for storing data that uses a laser guidance system to position the head, but it writes data to a floppy disk just like a normal floppy drive would. Hence, Floptical. Now I ask you, isn't that a lot better than an opticoppy?

So, how's this Floptical work? According to Andy Rose at Insite, the developers of the Floptical, it works quite well. He recalls an incident that shows just how well this new hybrid works.

"It was the day before our Investor's Meeting," Andy says, "and we were working the first drive for a demonstration. We tested the heck out of the 21MB mode and it was working great including interchange testing (with drive #2). At the last, we tested 1.44MB interchange. It failed. Badly. PANIC. COLD SWEAT. FEAR. We were staring at an all nighter! Found the problem: the spindle was defective and had four (4) tracks of wobble measured at the 21MB's track den sity—and it worked fine. The 1.44MB saw that as 0.6 tracks of wobble and didn't work. Why? The 21MB's servo tracked the diskette and wobbled the heads to

Table 1. Emoticons and Their Meanings

.–)	User has one eye	:–X	User is wearing a bow tie	;–\	Popeye gets his lights punched out
:–%	User has beard	:–#|	User with bushy mustache		
:–o	User singing national anthem	:–@	User face screaming	(–:	User is left–handed
		:–}	User wears lipstick	(:–)	Smiley big–face
:–t	User is cross	:–)	Humor (or smiley)	(:–(	unSmiley frowning
:–:	User is mutant	:–v	Talking head Smiley	*‹|:–)	User is Santa Claus
:–(	Drama	:–c	Bummed out Smiley	›–	Female
:–)	Comedy	:–x	"My lips are sealed" Smiley	#–)	User partied all night
:–	User is male	:–|	"Have an ordinary day" Smiley	|–)	Hee hee
:–?	User is smoking a pipe			|–D	Ho ho
:–=)	Older user with mustache	:–e	Disappointed Smiley	|–)	User is asleep (boredom)
:–)8	User is well dressed	:–‹	Real sad Smiley	8–|	Suspense
:–#	User's lips are sealed.	:–I	Hmm	8:–)	Glasses on forehead
:–o	User is shocked	:–(	Boo hoo	8:]	Normal smiling face except that User is a gorilla
:–{	User has a mustache	:–8(	Condescending stare		
:–|	No expression face, "that comment doesn't phase me"	:–O	Uh oh	B–)	Horn–rims
		::–)	User wears glasses	P–)	User is getting fresh
:–%	User has beard.	:›	Midget Smiley	[:–)	User is listening to Walkman radio
:–(	Sad	;–)	Winking Smiley		
:–›	Hey hey			[:|]	User is a robot

'perfectly' position them to the diskette. Nine (9) times the track density and the 21MB mode worked where the 'standard' didn't."

Hmm, sounds to me like this laser guidance system is a lot better than the steel guidance system to keep one on the right track.

So, is this new data keeper the floppy of the future? I don't know, but it does pose some interesting ideas. How about those games that come on five disks, all compressed? One Floptical could hold it all, uncompressed.

The LINK

Another nifty thing about the Floptical is that it is a SCSI (pronounced skuzzy) device, and that means you can use it on many different platforms and all of the Atari ST/TT/STe series, too. However, you will need the LINK from ICD. The LINK is an adapter that gives you the ability to use both SCSI-1 AND SCSI-2 devices... like CD-ROMs and SCSI tape-backup systems. You read right! CD-ROMs can now be used on our ST's! Anybody's CD-ROM. Finally, FINALLY, CD-ROM on an ST is only limited by one's pocketbook.

Now, what's this LINK thing? It's a contraption that looks a lot like a printer or modem cable until you take a closer look. Then you'll see a DB-19 plug on one end and an Amphenol 50 on the other. It also says "LINK" on it. You plug your DB-19 into your ST and the Amphenol 50 into your SCSI device, give your SCSI device some power, and away you go. Now all we need is a whatchamacallit where you can plug in more than one SCSI device and a switch on it to select whichever device you want at the moment.

Falcon030

The other Hot Topic of the month was the Falcon. Not, "Will it be released?" - we all know the Falcon030 was officially announced in September, but we also know that everyone who owns an Atari is looking to the Falcon030 to support Atari. However, the big question looming like a grizzly in my mind, and a lot of other minds on CIS, is, "Will Atari support the Falcon030?" Once again they have a terrific machine on their hands, but if they don't let the rest of the world know about it, they might as well wink in the dark.

Here it is November already, and nobody on our shores has seen a Falcon yet. It was reported in the October 30th issue of STReport that Alwin Stumpf is no longer the General Manager for ATARI Germany. Fortunately the announcement was a hoax, but nonetheless, the reasons listed do raise some rather interesting questions.

1) Has Atari decided to stop FALCON production because people have noticed that the planned customers weren't ready to invest between 2300 and 3500 German Marks ($1300 and $2000)?

2) Is Atari putting the Falcon into a new case, with a detachable keyboard?

Good questions. The folks in the Atari Forums on CIS have been saying all along that Atari had shot themselves in the foot by putting the Falcon in the old ST case. I guess we'll just have to wait and see. Hmmm, Atari and the Army certainly have a lot in common when you stop and think about it. Hurry up and wait.

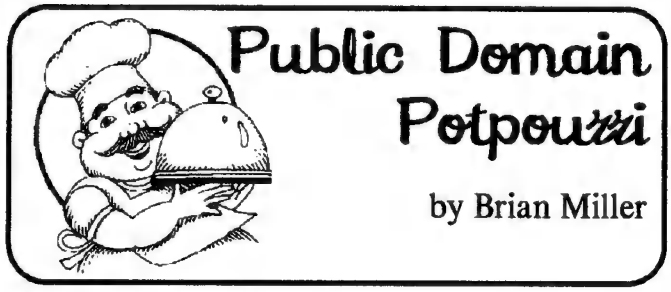
Whatever happens, I do know this: if Atari doesn't get the word out to the right people, it won't be a very bright future. Who are the right people? Those who will own personal computers in the not too distant future. The people who will say, "but there's no software for the Atari" if everyone at Tramiel & Company doesn't get off the stick and get the Falcon into the hands of ALL the developers. Not just the ones who are making applications, but also those who are making some darn fine utilities. Software sells computers. Software. Applications AND utilities are software.

Is this Atari-bashing? I think not. It's frustration. Frustration caused by sitting at the keyboard of the greatest home computer the world has ever seen, then HAVING to sit down at the keyboard of a 386 and WAITING for it to work. Frustration because the Boy's of Sunnyvale have let Big Blue dominate the home computer world. Frustration because the stockholders of Atari have, apparently, decided the shrinking bottom line is okay by them. It makes one wonder if Atari Corporation is nothing more than a giant tax write-off.

QCMsg

I should probably climb down off my high horse and wrap this up for the month with something on a more positive note. That something is *QCMsg - The QuickCIS Message Manipulator.* You'll remember last month I told you all about QuickCIS, and how it helps keep you on track while meandering through the halls of CompuServe. Well, during one of my meanderings I found QCMSG.PRG in the AtariPro Forum. About the same time the October '92 issue of CN made its way through the snow of the north and on page 23 I found Richard Gunter's remarks about this freeware offering. He says, "for those of you who are CompuServe users, *QuickCIS, QCMSG,* and *EdHak* are an excellent combination." I can't say anything about *EdHak* as I've never used it, but *QuickCIS* and *QCMSG* make a great pair!

Until February, keep your modem warm and look me up on CompuServe, #71043,3442. :-%



Some Suggestions and Converting Word Perfect Files

Last time I asserted that distortions, both positive and negative, poorly serve our Atari ST. I concluded that discussion with two assurances. First, I promised to offer some suggestions for how we might help promote our worthy computer. Second, I said that I would get back on track with the purpose of this column. I will conclude by discussing a couple of interesting programs I recently found in the GEnie ST Library of software.

Hints from Heloise—*NOT*!!

I need to start with a disclaimer. I am not an economist or a marketing strategist. I am merely a grunt in the trenches. However, like many of you, I have often thought, "I wonder what I could do to convince others the ST is a computer worthy of respect." Not all of these ideas are original, and many of you may have had similar thoughts. With the requisite self deprecation out of the way, may I suggest:

1. Donate your aging ST to a worthy Charitable Organization. Perhaps you have finally decided to buy a new STe or if we're lucky, a FALCON030. You could try to sell your old machine through a magazine classified, or trade it in to your retailer. Unfortunately, you will probably have trouble getting back anywhere close to what your machine is worth. (Not true. You *will* get what your machine is worth *today*, although that may be a lot less than you *paid* for it when you bought it. - JW, editor and economist.) In a sagging economy, many of your community's charitable or non profit organizations struggle to survive. Having computer equipment is often a luxury these worthy organizations simply can't afford. Your donation would be all the more appreciated if you offered some basic instruction and perhaps included shareware or public domain software. While altruism is a noble virtue, you could be a tad selfish and claim your donation on your income tax!

2. Volunteer your time to your local Atari Retailer. As a volunteer, you might be able to devote your creative energy to more effectively promote Atari products. You don't have to preach to the choir, but many of the ST's capabilities might come as a real surprise to the public.

A few years back, one store held Saturday morning clinics. Each week, sales staff demonstrated the use of art programs, desk top publishing applications and a host of other software. While devotees made up the bulk of the audience, casual shoppers often listened in. Many store owners may simply be too busy to schedule these demonstrations on a regular basis. As a volunteer, not chained to the cash register, you could host these events.

3. Commit your thoughts and ideas to writing and don't limit yourself to Atari Publications alone. *Current Notes* and most other magazines encourage readers to send in letters and articles. As an ST user, I can think of many programs that I would like to know more about. Some of these programs have been around for a while, but I have seen advertisements for new products that have piqued my curiosity, too. I would like to see a wider variety of programs and products presented in ST publications.

Home Office Computing and a few other publications attract a fairly diverse group of computer users. For example, the thrust of *Home Office Computing* is to feature stories of those brave souls committed to making their own way in the world. These entrepreneurs have fit computers into their equation for success. "It's A Small World." I can think of at least two individuals who should "Hop" right on it, and share their stories with the rest of the computing world. Perhaps you might also have a story to share!

4. Subscribe for two. A while back *Current Notes* suggested that patrons consider taking out a subscription for their local public library. This is a great idea. You might take this tact for other ST publications as well. You would be performing a valuable public service. You would also provide a bit of free advertising for the ST and other Atari products.

5. Share your ST masterpieces with the rest of the computing world. Perhaps you have created some outstanding art work or written that perfect song with help from your ST. It's helpful to share your creations with fellow ST users, but why not share your efforts with PC and Mac folks as well. You could include a readme.txt file that explains how you produced your work.

6. Support your local user's group. Joining forces with Atari enthusiasts from your community will give you a sense of support and camaraderie that you may have been missing. As a member of a group, you can help develop projects to further the Atari cause.

7. If all else fails, complain to the boss. I hesitated

to include this, but as a final suggestion why not write to the Tramiels. After all, it's their company we have an interest in; and, who knows, maybe someone will even read your letter.

Time to Put My Nose to the Grindstone—Ouch!!

Other than this column, most of what I produce on a computer has to be PC or Mac compatible. While you can find worthy word processing programs for the ST, I have been unable to consider using them for most work or school assignments. Fortunately, I found two utility programs that will give ST word processors greater compatibility.

Word5_4, (Sol Guber, 717 Elkington, St. Louis. MO 63132)

Mr. Guber reports that he often forgets to convert *WordPerfect* files created in version 5.0 before bringing work home. His utility program will convert version 5.0 files to version 4.1 so he can use the ST's version of *WordPerfect.* Mr. Guber also stated that he was working on a program to convert *WordPerfect* graphics to GEM format.

ISOSTASIS 1.2, (Edward J. Smith)

ISOSTASIS is a shareware utility that will let you convert to and from a variety of file formats. A partial listing of the formats supported include:

Word Perfect(Atari)
Word UP
Word Flair
Microsoft Word
MacWrite
Word Perfect 4.2
Word Perfect 5.0

The unregistered version has disabled all formats except *Word Perfect*(Atari), *Word Up,* and *Word Perfect 4.2* (IBM). This full-featured utility shows real promise. The title and program summary screens flashed by too quickly for me to read with any detail. So, unfortunately, I cannot pass on any more specific information about Mr. Smith's program.

The cursor retains the "busy bee" form until you choose a file to load. I found myself hesitating before trying the program the first few times. I expected the cursor to return to its default arrow shape. The familiar arrow typically signals the user that the program has finished loading. I hope the fully enabled program exterminates this bug, or should I say bee!

Until Next time, Take Care!

Brian Miller
4499 Edsall Drive,
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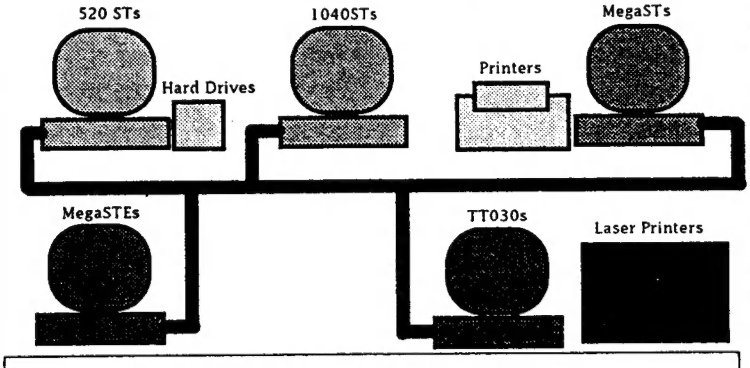

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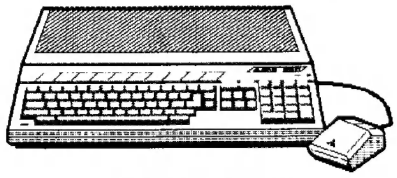

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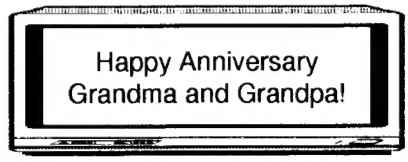

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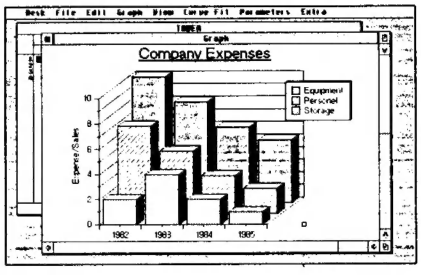

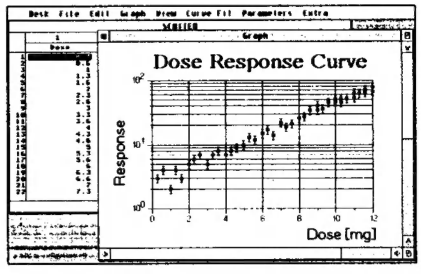

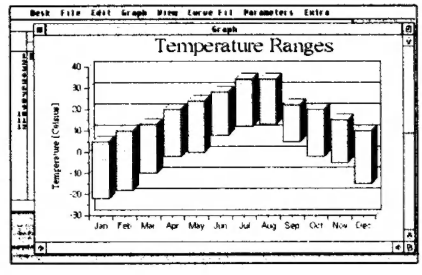

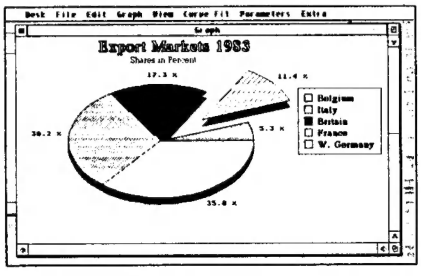

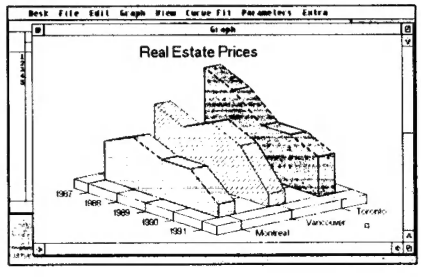

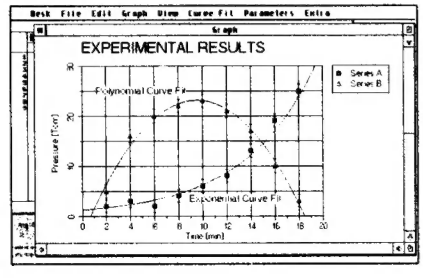

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